HANDBOOK
OF
PATENT LAW.

BY W. P. THOMPSON, C.E.,
LIVERPOOL.

Handbook of Patent Law,

OF ALL COUNTRIES.

BY

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AGENTS FOR PROCURING PATENTS,

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PREFACE.

ENCOURAGED by the kind favour with which the public has treated the previous editions of this Work, the Author has again carefully revised and considerably added to its contents, so as to give the law and practice of each country exactly as they stood at the end of 1881. He has again to thank the various foreign correspondents of his firm for their kind assistance in supplying him with all the latest amendments in the Patent Laws of the various countries.

Modes of procedure in actions at law are not herein set forth, as in such cases the patentee should be governed by his solicitor: similarly, a description of the routine required in obtaining Patents in the various countries is omitted, as this would be solely interesting to the Patent Agents.

The Costs of securing Patents are inserted in each case. These are only approximate, being the average charges usually made in the profession; and may be relied upon as fair rates for Patents of ordinary type. They are also substantially those charged at the British and International Patent Offices, 323, High Holborn, W.C., London, and 6, Lord Street, Liverpool.

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FOREIGN AND COLONIAL LAWS:

HANDBOOK OF PATENT LAW, ETC.

The granting of Letters Patent, or exclusive privileges, to an inventor for a limited period, is, in reality, a contract between the crown, on behalf of the nation at large, and the inventor. The latter gives to the public what it did not possess before—the full details of a new invention; the crown in return gives the inventor the exclusive right of working that invention for a limited period, at the end of which time the full benefit of the discovery reverts to the public.

BRITISH PATENTS.

There are two kinds of protection for an invention,—Letters Patent, and Registration.

If protection be not desired for a longer period than from three to five years, and if the practical benefits arising from the invention are due simply to some particular shape or configuration of a part or the whole of a machine or apparatus,—then the cheaper form of protection, "Registration," is all that is desirable. (This form of protection is more fully gone into on page 20.)

If, however, as is generally the case, one particular shape or configuration is not absolutely essential to the practical application of the invention,—if, in fact, the invention be susceptible of more than one modification, or it consists of a process of manufacture, or a composition of matter,—the only form of protection is by Letters Patent.

LETTERS PATENT.

Any new art, manufacture, or composition of matter, new combination of two or more known things producing an advantageous result, or any new chemical or other process, or improvement on existing processes or manufactures, can be patented. The invention, in order to come under the term *new*, must be unknown *to the public* in the *United Kingdom*, but may have been publicly known and used in foreign countries, or the colonies, at the date of application. An invention patented abroad can be patented in England at any time during the continuance of the foreign patent, provided the same has not been published in this country. But the sale, or public exhibition of the article in any portion of the British Isles, or a complete and accurate description of the invention in a journal or book, printed or circulating in the kingdom, would invalidate a patent afterwards obtained. Copies of the specifications and drawings of American and of some continental patents are now forwarded to the British Patent Office Library, where they are open to free inspection. This constitutes a legal publication, though they may not have been examined by the public. If, however, the invention be not sufficiently described as to enable a man, skilled in the line of business to which it relates, to work it successfully without experiments or invention on his part, such a partial or defective publication would not invalidate a patent afterwards applied for.

In order that a patent may be sustained, it is also essential that it should be useful; but this point, though usually all-important as regards its value to the inventor, is never investigated in practice by the officials, unless the patent be opposed.

Any person, native or foreigner, may obtain a patent. He must be the true and first inventor, the first

importer, or the executor, or administrator (by appointment of a British court) of the actual inventor. The executor or administrator of *any* applicant can complete a patent (if, as in the former instance, appointed by a British court, otherwise he has no status). The first importer, if he have not obtained the invention by fraud from the actual inventor, is legally considered the inventor, and is entitled to all the privileges of the inventor in making application for a patent. Consequently the inventor, *or any other person* residing abroad, can obtain a valid patent in this country by sending it to an Agent in Great Britain, who takes it out as a communication from—(name in full and address of communicator). The patent then belongs to the individual for whom and at whose expense it was secured, whether he be the inventor or not—the Agent being only a trustee for the time being; and should the said Agent decline to make over the patent to the rightful owner, he can be compelled to do so by law.

GENERAL RULES RELATING TO BRITISH PATENTS.

1st.—Two substantial or distinct inventions cannot legally be combined in one patent. This proviso is, however, systematically evaded to a considerable extent, the practice being to consider two inventions on the same subject to be parts of the same invention. If the Law officer allows the patent to be granted, its validity cannot be afterwards questioned on the ground of its containing two or more substantially distinct inventions.

2nd.—A patent gives to its owner the sole right of making, using, and selling the article or process patented, in Great Britain, Ireland, the Channel Islands, the Isle of Man, and on the adjacent seas, but not in Foreign or Colonial ships.

3rd.—It is an infringement of the patentee's rights to manufacture for one's private household use.

4th.—Of two discoverers of the same invention, neither having made the matter public, the first who obtains a patent is preferred, and though a patent may be granted to both, yet the owner of the patent of earliest date has the sole right and title to the new matter common to both patents, and the second cannot use it without the first's permission.

5th.—Two or more inventors effecting the same result, but by different means, can each obtain a valid patent for his mode of procedure, provided said modes are substantially different.

6th.—A patent may include subject matter of another unexpired patent, but the inventor cannot of course work the previous patent without a licence from the patentee thereof.

7th.—A new application of a known thing can be patented, provided it be not analogous to any existing application thereof, or a similar material has not already been so applied. Thus, the substitution of vulcanized india-rubber for iron in the tyres of traction engines was the subject of a valid patent, while the employment of vulcanized india-rubber, then a known substance, for a purpose to which non-vulcanized rubber had been already applied, was held to be no invention, and the patent for it invalid.

8th.—The new combination of two known means to effect an improved result can be patented. Thus the hot blast and the use of anthracite had both been used separately in the smelting of iron. Yet a patent for using the hot blast in combination with anthracite was decided to be valid, the combination producing great commercial advantage.

9th.—The mere omission of a part of a known process or combination, hitherto supposed to be necessary, is a valid subject for a patent,—thus a patent for making tubes without a mandrel in a well-known machine in which a mandrel had always been employed

and considered necessary, was held valid. The principle on which modern courts of law lay most stress is not—"Is the invention a striking one or greatly different from what has gone before?"—but "Is it productive of new and advantageous industrial results?"

10th.—The possessor of an invention, specimens of which he has sold or used publicly, or exposed for sale, cannot validly patent it; nor can anyone obtain a sound patent for a process which he has already used secretly in the realm for a period of years, and sold the produce thereof.

11th.—The mere experimenting on the invention before patenting, if every reasonable precaution has been taken to keep it secret, and the working has not been for profit, does not invalidate the patent afterwards obtained. Thus it was decided that the use of a steam road roller in a public street at night, previous to patenting, did not invalidate the patent, though the experiment was seen by large numbers of the public—as it was impossible to experiment on the invention in any other way than by rolling a paved road, and it was unreasonable to require the inventor to construct a special road in private grounds for the purpose. On the other hand, the use of a newly-invented crane for five months in the owner's yard, which was open to the railway and to the view of customers calling on business, was held to be a publication; as five months was far more than sufficient time to test it, and the continued use was to profit, and not for the purposes of experiment.

12th.—An invention must be fully and unreservedly explained in the specification, without concealing any part, and so that any competent man, conversant with the branch of manufacture to which it is nearest related, could work it without any other instructions than those the specification affords; otherwise the patent will not be valid.

13th.—Any evidence of deceit apparent on the face of the specification invalidates it; as, for instance, if an ingredient be mentioned as forming an essential part of a compound, which ingredient, however, is of no manner of use in it. Similarly, if it be found that the inventor concealed any part of his invention, or set forth an inferior mode of working, knowing of a superior one, his patent is void on the ground of bad faith.

14th.—The final or complete specification must clearly distinguish and point out exactly what is new in the invention; and should anything claimed as new be proved hereafter to have been known, or in public use in the realm previous to the application, the patent becomes void. (There is an expensive remedy for this, however, as will be afterwards explained under the head "Disclaimers.")

15th.—The prior existence, however, of an invention which, if it had been made subsequently to the date of the patent, would be considered a clumsy colourable imitation for the purpose of effecting the same result, does not invalidate the patent by anticipation.

16th.—Similarly, a prior unsuccessful and abandoned experiment by a third party, even though it embrace all the principles of the invention, is not sufficient to invalidate the patent afterwards obtained. The imperfect publication of an invention in an abandoned provisional specification has lately been held not to invalidate a subsequent patent for the same invention.

17th.—When an invention is the joint production of two minds, it must be patented in their joint names; for should it be proved that the patentee obtained a material part of the invention claimed, from another individual resident in the British Isles, the patent will be invalid.

18th.—Should, however, an inventor employ another individual to perform certain experiments, with a view to making a specific discovery, the discovery so made is

in the eye of the law made by the employer, and can be patented by him without using the name of the aforesaid employé, the latter being looked upon as merely an instrument employed by the inventor.

19th.—An employer has no right or title to the inventions of his employés, except such as those mentioned in the previous paragraph, where the employé has been employed purposely to work out the details of a general idea unfolded to him by his employer. Even should there be a special agreement between master and servant, that all inventions of the latter made during the period of service shall become the property of the former, the patents securing said inventions must be applied for in the name of the employé.

20th.—The Government does not guarantee anything in the patent, but simply gives the patentee a right to the exclusive use of his invention so long as nothing against the validity of his patent shall be proved. It is a common mistake to suppose that "a patent is a patent," and that so long as an inventor has his letters patent he has a good and sufficient title deed. It is, however, an undoubted fact that not one patent in ten as at present constituted will "hold water" (generally through defective drawing up, or from embracing what is old). This is owing in great part to the employment of "cheap agents," and it is notorious in the profession that certain individuals who send round circulars offering to take out patents at prices that cannot pay for good work, almost invariably draw up their specifications in a manner that will nullify the patent rights. Nothing indeed in the whole range of law requires so much skill to draw up as the final specification of a patent. Any ordinary lawyer can be relied on to draw up a lease or deed for the conveyance of houses or land, a bill in chancery, or a partnership agreement. There are books of precedents and rules for these that will keep him

straight. This is not and cannot be the case with patent specifications, and without great care and skill on the part of the man who draws these up, they are almost certain to be valueless. It is for this reason that respectable solicitors in Great Britain invariably decline to take out patents, but refer their clients to men whose special business and training it is to draw up these documents.

21st.—An invention that has been registered as a useful design, or a specimen of which has been sold in the realm, cannot be validly patented.

22nd.—A British patent for an invention previously patented abroad has no real validity the moment the prior foreign patent ceases to exist.

23rd.—Joint inventors obtaining a patent in their joint names, or joint owners in a patent without a special agreement, are not partners, but each has an equal and co-extensive right to work the patent to his own individual advantage.

24th.—A patent can be seized by a sheriff, and in case of bankruptcy of owner, it is vested in the assignees in bankruptcy.

25th.—Anyone not having a patent existing or extinct for the article in question, marking anything with the words, "Patent," "Patented," "Letters Patent," or other like words, or with the trademark of any patentee, with intent to deceive or lead others to believe that it is the patented article, is liable to a fine of £50, one-half of which goes to the patentee prosecuting.

SEARCHING.

Before applying for protection, an exhaustive search should be made through previous patents to see if the invention be really new. Any invention can be patented, and yet, as we have already shown, the patent may be invalid owing to the invention having been previously known or patented. *Three quarters of the patents taken out at*

the present time are entirely worthless from this cause. This fact is well known to all patent agents; but, without special arrangements, the difficulty of making a thorough search through the 105,000 patents already enrolled is almost insurmountable. A great outlay of labour and expense is requisite to obtain the published indices and abridgments, and to make manuscript indices, &c., where those published are incomplete, and many agents discard this duty altogether, unless it be absolutely insisted on by their clients. Of course, when an exhaustive search would stop the prosecution of three out of four of the patents applied for, besides requiring a considerable original outlay to conduct it economically and thoroughly, the temptation to unscrupulous agents to avoid this part of their duty is very great. The cost of a search varies according to the nature of the subject. A range of from two to seven guineas, however, should cover any ordinary case. Inventions for heating, for steam engines or boilers, for guns and for sewing machines, are usually the most troublesome to search through, often taking, with the *ordinary published indices only*, a fortnight's hard work, and even with the most complete set of additional manuscript indices, from three to seven days. In all the larger cities and towns in the British Isles complete sets of the British patent specifications, from the earliest times to the present date, are kept on file at public libraries, so that inventors may make their own searches, and should they have the requisite leisure and ability, this is decidedly the best course to pursue. Under some circumstances, however, a preliminary search is not to be recommended, especially when the invention fulfils a known want in the trade, and there is fear of being forestalled by some other applicant. When making a search, the inventor should make a record of the numbers and dates of all patents bordering on the invention, for use in drawing up the final specification.

PROVISIONAL PROTECTION.

If the result of the search prove favourable to the inventor's hopes, he should at once apply for provisional protection for six months. The services of a good patent agent are necessary here, the framing even of the title of the invention requiring skill and experience. Indeed, many good inventions have been lost to their owners through defective titles. They should neither be too general nor too restrictive. For instance, a patent for street lamps entitled "An improved method of lighting Cities, Towns, and Villages," was declared void on account of the title being too general. Another entitled "An improved Machine for giving an edge to Knives, Razors, Scissors, &c.," was declared void because it was proved not to be applicable to scissors.

The provisional specification filed at this stage, describing the invention, is kept secret by the Government till the end of six months' protection, or the completion of the patent, but can be published by the applicant should he desire to do so. The title is published in the *Commissioners of Patents Journal.* Provisional protection, including £5 stamp, costs, in ordinary cases, from £8 8s. to £10 10s. ($42 to $52.50c.)

The advantages secured by Provisional Protection are these :—

1st.—The Letters Patent afterwards obtained will date from the day when the formal application for Provisional Protection is handed in to Government. Priority is thus secured against all future applicants for letters patent for the same invention.

2nd.—The inventor can from the day of application freely work, exhibit, licence, or sell his invention without thereby invalidating the letters patent afterwards obtained.

On the other hand, if an inventor does not proceed with his application, or he allow any other or others, while his invention is still only provisionally protected, to make a similar application and get ahead of him, securing the sealing of their patent first, he runs a chance of losing his rights altogether through their successful opposition, in the manner described under the head "Notice to Proceed," page 12. It is therefore always advisable, as soon as an inventor is satisfied that his invention is worth completing, to immediately proceed with the next stages, "Notice to Proceed," and "Warrant and Seal," hereafter described.

Provisional protection does not give the right of suing infringers. Persons can indeed infringe with impunity till the third stage, hereafter described "Warrant and Seal," is passed; but the owner of a sealed patent can, even prior to the completion of the six months, and before filing his final specification, sue infringers and obtain damages for infringements of his rights, including such infringements as were made before the sealing, but after the date of the application for provisional protection.

It may here be mentioned that the applicant for letters patent, instead of a provisional protection, can, if he likes, obtain a "*complete*" one in the first instance. This confers, for six months, the full rights and privileges of letters patent, including the right of prosecuting infringers (not given by *provisional* protection). This plan is, however, not to be recommended, and is now rarely adopted. It is especially undesirable when it is intended to take out foreign letters patent, as the complete specification is immediately published; and in some countries a patent is invalid if applied for after the printed or official publication of the invention anywhere or in any language. A complete specification cannot afterwards be amended or added to; and recipients of provisional protection granted

on specifications of a wide nature, have the opportunity of including in their final specifications parts of "complete" specifications of similar inventions filed during the interim — and thus of robbing the subsequent inventors of their rights. In oppositions, too, it is of great advantage to an opponent to be able to see the published complete specification of his antagonist, instead of having to fight in the dark, as in the case of a provisional specification.

The grant of provisional protection usually takes place about a fortnight after the date of application—it being dependent on the convenience of the crown law officer to whom the application is referred. Should the subject be a proper one for letters patent, and the documents be rightly drawn up, the grant is certain to be made. Owing, however, to the fact that many applications are drawn up by utterly incompetent men, about one per cent. of all applications are refused.

NOTICE TO PROCEED.

The next step in procuring letters patent may be taken immediately after the grant of provisional protection (or the filing of a complete specification), or at any subsequent time during the first four calendar months at latest after date of application. As stated previously, it is very desirable to do it as early as possible.

By the Lord Chancellor's decision *ex parte* Bates and Redgate, 1869, a subsequent applicant for a patent for the same invention, getting his patent sealed first, can prevent the prior applicant from obtaining a patent at all, by opposing him at this stage or at the great seal, as explained further on. Doubts have since been thrown upon this ruling, and in 1877, Lord Cairns, in *ex parte* Dering, gave a very nearly contrary decision. By giving notice to proceed at once the chance of opposition also is greatly lessened, and the inventor

can publish his invention with greater safety. "Notice to proceed" having been given in due form, it is advertised in the *Commissioners of Patents Journal*, with a notification to any persons desirous of opposing the application to leave particulars in writing of their objections to same, at the office of the Commissioners, within twenty-one days of the date of the Journal containing said advertisement.* If there be no opposition, the entire cost of this step (including £5 stamp) is usually £6 10s. ($32½). Should, however, an opposition be entered (which does not take place in one case out of twenty), the additional expenses of the defence will be from nine guineas ($47) upwards, according to the nature of the case.

WARRANT AND SEAL.

Not later than twenty-one clear days before the expiration of the provisional protection, application for the law officers' warrant and the great seal must be made. A special extension of the time is sometimes granted by the Lord Chancellor, but only in *exceptional cases*.

At this point again, an opposition can be entered against the granting of a patent, but except in those cases where it is an appeal from the decision of the law officer, in an opposition filed during the twenty-one days after the notice to proceed was advertised, or evidence not accessible on that occasion be brought forward, or the invention be proved to be identical with a patent already sealed, the Lord Chancellor almost invariably grants the application for a patent. The

* Patents can be opposed on the ground that the opposer believes the alleged invention to be not new, not useful, a mere colourable imitation or infringement of another patent already granted, or that the applicant is not the true and first inventor or importer, or that he obtained his knowledge of the invention by fraud. The case is heard before the Law Officer of the Crown, who has the power to refuse the patent, or allow it, and to grant costs to either party.

cost of this step, should no opposition occur—(and oppositions at this stage are extremely rare)—including £10 stamp duties, the letters patent, and a leather case to hold them, is usually £12 ($60).

FINAL SPECIFICATION.

Previous to the termination of the six months' protection (unless a complete specification was filed at first), a final specification must be entered. This document requires the greatest care to make it comply with the decisions of the courts. It must fully describe the invention that was set forth roughly in the provisional specification, and the manner of carrying it into effect, pointing out exactly what is claimed as new. If drawings are required, they must be made in duplicate, and so neatly and artistically drawn that they can be photo-lithographed direct, and present a creditable appearance in the printed copies. One set is attached to the specification and the other left at the office of the Commissioners. The specification must be signed and sealed by the inventor. Cost of drawing up, engrossing, and filing the final specification (including stamps, drawings, copy of specification for Queen's printer, &c.) varies from £12 to £20 ($60 to $100).

The patent is now secured for fourteen years from the date of application, subject, however, to a stamp, at the end of three years, of £50 ($250), and at the end of seven years of £100 ($500). These duties must be stamped *on the letters patent themselves*, before the expiration of the respective periods, otherwise the patent becomes null and void. There have been instances where inventors, having accidentally allowed the time to pass, have obtained private acts of Parliament, at the expense of several hundred pounds, to be allowed to pay the stamp duties and renew their patents. Agents' fees for stamping the patent with the above-mentioned stamps are usually from two to

three guineas ($12 to $18, including postage to America).

It may be well here to state that at any stage of the proceedings, if further cost be found undesirable, a patent can be allowed to lapse.

PROLONGATIONS.

All patents expire at the end of fourteen years, unless they be prolonged by a special fiat of the Judicial Committee of the Privy Council. A prolongation is granted occasionally in cases where patents of great utility have not sufficiently rewarded their inventors. A licence to use the original patent does not necessarily give the licensee a right to use the invention during the prolonged term. The prolongation cannot exceed another term of fourteen years, is rarely granted for more than seven, and cannot be again renewed.

CONFIRMATIONS.

Should a patentee discover that his patent is invalid because of some obscure publication or use of the invention within the realm prior to the date of his patent, and of which he had been ignorant at the date of his application, the Act of 1835 gives to the Judicial Committee of the Privy Council the right to ratify and validate his patent, notwithstanding such publication. This right has, however, unfortunately been rarely exercised, and not at all during the last twenty years, every application during that period having been refused.

LICENCES AND ASSIGNMENTS.

A patentee can assign his patent in whole or in part, not only as regards its duration, but its subject matter and its territorial limits. He can also grant licences to use it on royalty, either exclusive or concurrent, and over the whole or only some part of the United King-

dom. All licences and assignments must be stamped, and must be registered in the Registry of Proprietors, in London, before they are valid against third parties.

Copies of this register are open to the public in London, Edinburgh, and Dublin, on payment of a small fee, but the want of an index to the Dublin copy renders it of little use. Copies of any particular entry can also always be obtained from the department at the cost of making them.

In licensing an invention to a manufacturer, the patentee should take care to guard himself on the following points:—1st. He should have quarterly statements of the number or quantity of the patented article manufactured, and of their destinations. 2nd. A right of inspection of the books and works of the licensee. 3rd. All machines manufactured under the patent should be numbered with consecutive numbers, and be stamped with the inventor's name and word "Patent" (to unlawfully affix this subjects the offender to a fine of £50). 4th. The patentee should either have a part of the royalties in advance, or a guarantee of a certain minimum royalty each quarter, so as to make it to the interest of the licensee not to let the patent lie idle.

On the other hand, the licensee should have the following protective covenants in his licence:—1st. That all further improvements in the said invention made by the patentee, or his other licensees, shall be as free to him as the original inventor (he also should agree to reciprocate in this matter). 2nd. That all disputes on the meaning or intention of the licence hereafter shall be put to arbitration in the usual way, and the award of such arbitrators be made a rule of court by either party. 3rd. That the licensee shall be allowed to sue in the name of the patentee in cases of infringement (this is not so important since the new Adjudicature Act came into force). 4th. That the patentee shall maintain the patent by paying the stamp

duties as they become due. A licensee cannot successfully plead the invalidity of a patent as a ground for refusing to pay royalty, except in a case of *scire facias*.

If in a licence it be stated that unless a certain minimum royalty be paid yearly, the licence can be cancelled by the patentee, and if for one or more years the patentee accepts a less royalty, he cannot afterwards cancel the licence on the ground that the minimum royalty stipulated has not been paid, his having accepted the smaller royalty being held to be equivalent to cancelling this particular clause in the licence.

DISCLAIMERS.

It very frequently happens, when no search has been instituted before patenting, that something has been claimed in the specification that had been previously secured by another patentee, or which was in public use, or published in this country, before the date of application. Such a claim makes the whole patent null and void in law. When, therefore, a patentee finds such a flaw, he should immediately apply to the law officer for permission to enter a disclaimer discarding said claim. The disclaimer must in no case extend the scope of the invention, otherwise it would be null and void. The application being made, it must be duly advertised in such newspapers and periodicals as the law officer may select. For ten days after the publication of the advertisement in all these journals (and, indeed, afterwards until the actual fiat of the law officer has been given), anyone is at liberty to enter an opposition. Infringers opposing are frequently allowed by the court to continue to work the invention as one of the conditions of granting the disclaimer. Hence we see the great advantage of a thorough previous search, and the consequent preparation of accurate claims to start with, over the plan usually adopted, of blindly

making the specification, and of entering disclaimers, if necessary, afterwards.

The cost of a disclaimer unopposed is usually from £25 to £80 ($125 to $150).

Printed copies of all specifications and drawings, except some out of print, can be had at a moderate rate, usually not more than 2s. (50c.) each patent.

INFRINGEMENTS.

Patent trials are proverbially expensive in England, the law and procedure being apparently framed with the special object rather of putting fees into the lawyers' pockets than of doing justice promptly and cheaply. As the cases have to be fought out by lawyers, almost invariably utterly ignorant of the technicalities of the case, and before judges learned only in the law, the probability of obtaining justice, even with a long purse, is not extravagantly great. Often, too, when the case comes to a hearing, and nearly all the expenses of the lawsuit have been incurred, the court, conscious of its poor qualification for deciding scientific and technical matters, reserves a series of points to be decided in a fresh trial, and refers all matter of accounts to arbitration. When, therefore, both parties will consent to the arrangement, it is generally best to choose one or more arbitrators from men of integrity in the same trade, or, if points of patent law are largely concerned, a patent agent of good standing, and unconnected with either party, will be found a still better man for the business. Should, however, the patentee, in self-defence, be obliged to go to law, the following are a few hints on the subject:—

1st.—Be sure first that your patent is a valid one, and that the act complained of is an infringement of it. The advice of a good patent agent on these points is more reliable than that of any solicitor.

2nd.—If the patent agent report favorably, put the matter into the hands of your solicitor.

3rd.—Should the patentee make affidavit that he verily believes that his patent is valid, and is being infringed in a certain factory, and can give reasonable ground for his belief, a court of common law will grant an order for a single inspection of the works, but not of the books of the suspected infringer, to see whether the suspicion be correct.

4th.—The infringement, even though unintentional, being proved, the court can assess damages and decree costs, and, further, will grant a perpetual injunction against the defendant continuing the infringement, on pain of fine and imprisonment. The decision can also be cited in applying for an interim injunction against other parties.

5th.—The court may, prior to the action, grant a preliminary injunction forbidding the infringer from continuing the use or manufacture of the patented invention, under pain of fine and imprisonment, until the trial be decided. This power, however, is at the discretion of the court, and is rarely made use of, except where the infringement is recent, the patent of long standing, and the application has been made the instant the infringement has been discovered.

6th.—Should the alleged infringer deny the validity of the patent, or his infringement of it, the court, instead of granting the interim injunction, may order the infringer to keep careful accounts while the trial is going on of all articles manufactured, so that damages may more easily be assessed in case of conviction.

7th.—The patentee can be obliged to produce his letters patent in court, or lose his suit.

8th.—The court may order all matters of account to be decided by arbitration.

9th.—The court may, besides giving costs and damages, order the articles made in accordance with the

patent in the possession of the infringer to be given up to the patentee.

10th.—Should a person injure the business of another by pretending that that other's manufacture is an infringement of a valid patent when such is not the case, the aggrieved party can obtain damages, costs, and a perpetual injunction restraining him from further intimidation, on pain of fine and imprisonment.

REGISTRATION.

The shape or configuration of almost any manufactured article or design can be protected by registration, provided that shape be new. *Provisional* registration gives protection for twelve months, and the Board of Trade sometimes, though rarely, extends the time, on special application for another half-year. During the provisional protection, the design can be published or the article manufactured, and the proprietorship in the design sold, but the sale of any article manufactured according to the design before complete registration be obtained nullifies the protection. Articles made during provisional registration must be marked or stamped "Provisionally Registered," with the date of provisional registration. At any time during provisional protection complete registration can be obtained. Penalty for infringing £5 to £30 *for each individual infringement*, proved before two magistrates or any superior court. The assignee of the designer can register. Labels, wrappers, or other coverings, cannot be registered under this act, but can be secured under the Trademark Registration Act.*

The Registrar may refuse to register any design which he deems to be contrary to law or decency.

Registration is effected under two heads, Useful and Ornamental.

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* For full particulars of this Act, see "All about Trademarks," by W. P. Thompson, Patent Office, Liverpool, price 3d. (10c. to America.)

USEFUL.—Articles for which some special shape or configuration is necessary to their utility can be thus protected, and the shape of the new or original parts claimed, for the special uses or objects designated in the specification attached. Only the shape can be claimed, however, not the principle, material, or composition, as in patents. Any close approximation to the shape of any new part, however, so as to accomplish the same result in the same way, is an infringement. Complete registration can be effected at once, or a provisional protection for one year first obtained, and changed to complete afterwards. The duration of complete registration is limited to three years from the date of *completing* the registration, and irrespective of the previous provisional protection.

Cost of Provisional Registration of "Useful" designs is usually from...£4 to £8 ($20 to $40)
,, Complete ,, ,, £14 to £18 ($70 to $90)
,, Changing Provisional into Complete...£11 ($55)
,, Assigning Provisionally registered design £1 ($5)
,, ,, Completely ,, £6 10s. ($32 50c.)

Only about 150 useful registrations are effected per annum, and, as a rule, they are very disappointing, as just as the design gets well known and appreciated, the three years' protection expires. The Commissioners of Patents have authority to renew a registration for another period of three years; but this is rarely asked for, and then is usually refused.

ORNAMENTAL.—Ornamental designs can be registered provisionally for twelve months, and the same rules hold good as in provisionally registered useful designs; "completely," for various periods depending on the class of articles. In all cases the Board of Trade have the power of prolonging the period of provisional protection for six months, and of complete for three years, but the extension must be duly petitioned before the expiry of

the ordinary protection. Provisionally registered designs must be marked on every specimen made, "Provisionally Registered," with date. Completely registered articles must have attached or stamped on them the particular mark that is exhibited for the purpose on the certificate of registration. In case of sculpture, each specimen must be marked "Registered," with date of registration. Ornamental Design Registration has in practice been used for such things as pens, clothing, and other articles not machinery, in which the shape of the design is governed by both utilitarian and æsthetic considerations, or the latter only. The present registrar, however, apparently with the object of increasing the revenue by forcing applicants to apply for useful design registration, with its £10 stamp, very generally (and, we think, illegally) refuses to register, under the ornamental designs act, designs evidently made for a purpose of utility rather than for pure ornament, even though they be ornamental.

The cost of provisionally registering is usually half that of complete registration. The cost of changing provisional into complete, together with that of provisional registration, is usually 5s. to 10s. ($1 25c. to $2 50c.) more than the cost of complete registration at first.

In all cases two exactly similar copies of the design must be provided. Photographs will do, and indeed are preferred.

Usual cost and duration of complete ornamental registration, including agency fees, postage and letters:—

Class	£	s.	$
1 Articles composed wholly or chiefly of metal ..... 5 years	2	2	10¼
2 Articles composed wholly or chiefly of glass..... 3 years	2	2	10¼
3 Articles composed wholly or chiefly of wood..... 3 years	2	2	10¼

Class		£	s.	$
4	Articles composed wholly or chiefly of bone, papier maché, or other solid substance.....3 years	2	2	10¼
	Registration in any two of the foregoing classes .....3 years	3	10	17¼
	In any three.....3 years	5	0	25
	In all four.....3 years	6	10	32½
5	Paper hangings.....3 years	1	1	5¼
6	Carpets. floor-cloths, oil-cloths..3 years	2	2	10¼
7	Shawls (patterns printed) .....1½ years	1	10	7½
8	Shawls (do. not printed) ...3 years	2	2	10¼
9	Yarn, thread, warp, printed ...9 months	0	10	2½
10 & 11	Woven fabrics, with printed patterns, not enumerated in any other class.....3 years	2	2	10¼
12	Woven fabrics, not printed .... 1 year	0	15	3¾
	3 years	2	2	10¼
13	Lace and other articles not embraced in any preceding class.....1 year	1	0	5
14	Sculpture..... ..... 14 years	7	0	35
	Copies of registrations and searches are charged according to the time spent in making them.			
Assignments, including registration fee and stamps.	Provisional Useful.....	1	0	5
	Complete Useful.....	6	10	32½
	Provisional Ornamental	0	15	3¾
	Complete Ornamental..	2	0	10

Anyone fraudulently using the words "Registered," "Provisionally Registered," marking anything with the registration mark, or anything resembling it, after the period of protection expires, lays himself open to a heavy fine for each individual offence.

About 4,000 Ornamental Registrations are effected every year.

FOREIGN PATENT LAWS.

AFRICA.

The only parts of this continent which have patent laws are the Republic of Liberia, Cape Colony, and Natal—which see.

AMERICA (NORTH).

See United States, Canada, and Mexico.

AMERICA (CENTRAL).

See Guatemala and West Indies.

AMERICA (SOUTH).

See respective States.

ARGENTINE CONFEDERATION.

(Population, 2,000,000.)

The law as to what is patentable is the same as that of the French.

There are four kinds of patents:—

(1) *Invention.* Granted for new inventions, not patented in any country previously, and granted for five, ten, or fifteen years, according to wish of applicant and merit of invention.

(2) *Importation.* Granted for inventions already patented abroad and expiring with any prior foreign patent, but not granted in any case for more than ten years.

(3) *Improvement.* Granted for improvements on existing patent, and expiring with it.

(4) *Provisional.* These are of little value except to residents.

Infringement is a criminal offence, punishable with fine of from about £7 ($35) to £70 ($350), or imprisonment of from one to six months (second offence, penalty doubled).

The counterfeit articles are also confiscated to the patentee. The sole defences allowed are invalidity of patent or right of ownership in patent.

Illegal use of the word "Patent," or exhibiting for sale, or even giving away infringements on a patent, subjects the offender to the above-mentioned fines or imprisonment. These laws are easily put in force.

Cost of patent of invention or importation.	.....15 years £125 ($625.) .....10 years £92 ($460.) ..... 5 years £70 ($350.)
Cost of patent of addition by inventor of original patent.	£45 plus £1 10 a-year for period yet to run.
By other than the inventor of original patent.	£45 plus £3 a-year for period yet to run.

Registration of trademarks.....£20 ($100.)

AUSTRALIA.

(Population about 3,000,000.)

There is no central government in this island, but each of the colonies of New South Wales, Victoria, Queensland, and South and West Australia have an independent patent law and patent office; the same is

the case with New Zealand and Tasmania. For particulars of each colony see their respective headings.

AUSTRIA AND HUNGARY.

(Population 37,700,000.)

One application suffices for the entire empire, but a separate patent for Hungary is granted with that for Austria, and without further charge.

1st.—Any person *resident in the empire* can obtain a valid patent for fifteen years, or any lesser period renewable to fifteen years from date of original application, for an invention, provided it be not patented in the realm, or elsewhere, before the date of application, or it has not been worked or published in the empire. Substantially the same rules hold good in this case, as regards publication, as would be accepted under English law.

2nd.—Any person having a valid patent abroad (or his assigns) can obtain protection in Austria for the same invention, for a period coincident with the life of his foreign patent, but bounded in any case by the term of fifteen years—provided the invention have not been worked in the realm previous to the application for the Austrian patent.

3rd.—A patent obtained for a smaller number of years than the maximum allowed by law, can be afterwards renewed up to that maximum, at the cost of the difference between the price of the short term patent and one for the extended period, and, of course, agency charges. In all cases of imported inventions, even when the patent has been obtained for the entire fifteen years, it being still dependent on the foreign patent, the inventor is bound, if called upon, to give proof of the validity of the said foreign patent, whenever a period arrives in its existence when it might cease through

failure to pay taxes or neglect of other formalities. Anything that would form a subject for a valid patent in England would do so in Austria, with this exception, that preparations of food, beverages, and medicines cannot be protected.

4th.—Two or more discoveries cannot be united in one patent, unless they relate to the production of one and the same object, as component parts or operative means, and no patents are allowed for preparations of food, beverages, or medicine.

5th.—The patent secures to the patentee, his heirs or assigns, the exclusive use of his discovery, invention, or improvement, as laid down in his specification during the continuance of the patent, giving him the same rights and privileges in the empire that a British or American patent would in their respective countries.

6th.—In his petition the applicant must give his Christian name and surname in full, profession, and full address, and, in case of his not residing in the empire, the name, address, &c., of a proxy domiciled there (usually the correspondent of his Patent Agent); the number of years for which the patent is (at present) demanded, and the statement whether the specification is to be kept in the secret archives or not. (If kept secret, infringers cannot be convicted on the first offence proved.)

7th.—Transfers or licences of patents are registered as in England, and duly published. In case of an entire transfer, it must be confirmed on the patent itself.

The invention, even if it be an article or mode of warfare, must be practised in the empire within a year from the date of application, and the use of the said invention in the realm must not be discontinued for a period of two consecutive years, or the patent becomes void. This rule in Austria, unlike all other countries, is rigorously observed. One entire machine (if a mechanical patent) of workable size and character, must be

commenced to be manufactured in the realm within the year, but the patterns for casting from may be made elsewhere. The construction of the machine, however, if only partially completed before the year closes, and completed and worked afterwards, is sufficient to satisfy the law. If, however, it is for a method or process of manufacture, the entire method or process must be worked. Till the year 1880 this rule was most absurdly enforced. In the case of an invention for a method of destroying ironclads, the inventor was obliged to destroy an ironclad within the year, and go through at least a material part of the process biennially afterwards, in Austrian waters, on pain of losing his patent! As, however, patents contrary to law and order, or the interests of the state, are not allowable, patents for warlike inventions are usually either not granted at all, or, like General Uchatius' gun, are appropriated by government and the patentees rewarded; or, if thought of no value, are refused altogether. There is no law prohibiting the importation of the patented article by the inventor; he can do so to any extent.

A synopsis of the invention is forwarded to each provincial registry office, and chamber of trade and commerce, and is published in a monthly and annual government book or journal.

The day and hour of application settles the priority of the announced discovery or invention; and except in the case of imported inventions, the first applicant is the true and lawful owner of the invention, whether he be the inventor or not.

Patents are granted without question as to novelty or utility, provided the application papers are in order and fully describe the invention.

The Ministry of Trades and Commerce are the sole judges of the validity of a patent.

The following constitute infringements:—The manu-

facture, importation, exhibition or storage for sale of articles made in accordance with the specification, or using the process described therein. Infringements must be prosecuted in the district court in whose jurisdiction the infringement took place; an appeal lies to the provincial courts, but should the judgment of a lower court be confirmed by a higher, no further appeal is allowed.

The penalty for a first infringement of a published patent, or a second infringement of a secret one, is a fine of from £2 10s. ($12.50c.) to £100 ($500), or imprisonment of from five days to two hundred days. Also the confiscation or destruction of all tools or plant used specially for carrying on the infringement, and damages according to assessment. All fines go to the poor-box of the district.

For a first infringement of a secret patent, the only penalty is an injunction from further infringement, and the obligation to give the patentee such security as the court sees fit, against further infringement. Breach of trust or confidence is always held as aggravation of the offence.

Obtaining a knowledge of an invention by fraud, and patenting the same, constitutes a criminal offence. Petitions for prolongation must be made during the continuance of the patent, or cannot be allowed.

About 1,200 patents are secured yearly.

The cost of a patent for

1 year is usually about ...	£18	($90)
2 years	£20 10s.	($102½)
3 years	... £23	($115)
5 years	... £28	($140)
8 years	£41 5s.	($206½)
11 years	... £61	($305)
13 years	... £80	($400)
15 years	... £104	($520)

Cost of prolonging a patent equals usually the differ-

ence in price between the two periods, plus £4 ($20); thus to change a five years' patent to an eleven years', would be £61 + 4 — 28 = £37 ($305 + 20 — 140 = 185). Cost of proving working, applicant paying cost of actual manufacture, about £6 ($30).

BELGIUM.

(Population 5,500,000.)

All inventors, Belgian or alien, except citizens of countries not granting reciprocity to Belgians, and practically others beside the true and first inventor, can obtain valid patents for inventions, provided they be new. If a man employs another to invent, the employer is legally the inventor. Heirs or executors of a dead inventor can patent the invention imparted to them by the deceased.

All patents applied for, if the documents are in proper form and the fees paid, are granted without examination as to novelty, and without guarantee of th government as to sufficiency, novelty, validity, or merit.

Any invention, discovery, or improvement, susceptible of being worked as an object of industry or commerce, can be patented; mere changes in form, quantity, material, or colour, cannot be patented unless productive of a new result.

In a combination producing a new result, the combination can be patented, but not the new result, and any one finding a new way of effecting that new result, can obtain a valid independent patent for the new combination.

A discovery to be validly patentable must exist through human intervention—thus the discovery of a new mineral cannot be patented; the discovery that gas can be purified by passing it over a certain chemical can be validly protected.

Medical appliances, medicines and inventions for a

curative or health-preserving object, cannot be patented in Belgium, but bottles, capsules, and cases of surgical instruments, can be validly protected.

So can veterinary medicines as such, but the patented article can be made and used for human beings without infringing on the patent.

Artistic and literary productions cannot be patented, but are perfectly protected under the decree 19 to 24 July, 1793.

The prior existence of a much inferior process, but substantially the same in many respects, though not in all, will not invalidate the patent.

If a part be proved old, and another part of the invention be new, and the combination new, even if all three be claimed separately, the entire patent is not nullified, but only that portion claiming the old part taken separately; the new part and the combination being still validly patented.

Patents are of three kinds: Patents of Invention, Patents of Addition, and Patents of Importation. Except in the case of Patents of Importation, a patent is null and void, 1st, if the invention has been accurately described in any printed book, circular, printed picture, or photograph, in any country before the date of the patent. 2nd.—If it has been worked in the kingdom by other than the inventor or those holding rights under him, before the date of the patent. 3rd.—If there be in existence in Belgium or abroad a valid patent of prior date for the same invention.

A valid patent of importation granted only for the duration of an existing prior foreign patent, for the same invention, can, however, be obtained by the patentee of the said prior foreign patent, or his assigns, so long as it has not been worked commercially in Belgium by parties not holding rights under the said patentee, or his agents or assigns, more than a year previous to date of application for the Belgian

patent. It may have been described in books printed by government authority, but if fully described in print in any country, in works other than official, the patent becomes void.

Patents of Invention last twenty years, subject, however, to the payment of an annual tax of twenty francs before the end of the first year, thirty francs before the end of the second, and so on increasing ten francs each year. Payment of these taxes must be made within the calendar month during which they come due, but can, in default, be made good by paying the tax and an additional fine of ten francs any time within six months of the date they come due.

Patents of Importation last only for the term granted in the foreign patent upon which they were based (usually the one of longest duration), and are subject to the above annual tax, and limited by the term of twenty years from date of application.

Patents can be prolonged by special act of legislature, but this rarely takes place.

Patents of Addition are for improvements on existing patents, and can be taken out by the inventor of the original patent of invention or importation, or by any other person. They fall with the original patent, and are subject to no tax. The owner of a patent of addition cannot, however, work the original patent without a licence, or *vice versâ*. If, however, the orginal patentee declines to keep up the patent, the patentee of the addition can pay the annuities for him, so as to keep his own patent up, but even then cannot use the original patent without licence.

As in England, but contrary to French law, the sale of products of the patented machine previous to the patent, destroys the validity of a patent of invention for the said machine. Publicly exhibiting the invention does not destroy the validity of a patent afterwards obtained.

The novelty of an invention is not destroyed if the prior publication in print contained only some of the elements of the invention.

A patent cannot be granted for two inventions entirely disconnected with each other. This proviso is construed in the same liberal spirit in Belgian as in English law.

The specification and drawings must describe the inventions so accurately that any ordinary workman in the trade to which it relates can work it without making fresh experiments. In this respect, the Belgian law is almost exactly the same as the English and American.

The specification must also set forth exactly what parts are new and what old.

A description, embracing the entire substance of every patented invention, is published by the authorities in the official "Recueil Special des Inventions," three months after the grant of the patent. Until these three months have expired, the invention is kept secret by government, after which anyone can obtain from the authorities a description embracing the entire substance of the invention, but not a copy of the specification itself, on paying the cost of copying.

The patent dates from the hour of application in Belgium.

Belgian patents give substantially the same rights to their possessors that English and American ones do in their respective countries. A patent is in all respects personal property. If several persons hold a patent in common, each has the right of working it independently of the others, unless otherwise arranged by special agreement, but should any proprietor prove that another is getting heavy profits that ought equitably to be divided between the co-proprietors, such as royalty for a licence—a court of equity will rectify the grievance. A licence, however, granted by a partial proprietor, is valid.

An exclusive licence must be signed by the entire

proprietory, and entails on the owners of the patent the obligation to prosecute infringers.

Assignments and licences of patents should (to be valid against third parties) be notified (and an extract sent) to the Department of the Interior, for registration; or should obtain a "certain date" some other way (that is, a legal proof of date). This can be done by obtaining the seal of a court, the attestation of a notary, the certificate of date of death of one of the signatories, or any other official document by which the document can be proved to have been in existence at a specified date. Registration is not necessary in this case, but is useful, and as the government fee is only ten francs, and the registration is officially published, this mode of obtaining a "certain date" is that usually adopted.

Licences can also be registered. The registration fee in these cases is variable.

The vendor of a patent, in selling it, practically guarantees to the purchaser that his title to the invention is perfect, also that the patent is valid, and that everything mentioned in the specification is true; he does not guarantee in other respects the utility or success of the invention. Sould any of these practical guarantees be vitiated, the purchaser can oblige the vendor to receive back the patent, and return the money. Unless a clear case of fraud be proved, these rights cannot be enforced anywhere but on French or Belgian soil.

If a patentee be proved to have obtained the knowledge of his invention from the true and first inventor by fraud, the real inventor can by law obtain the transfer of the patent rights to himself, or their nullification. The patent gives the right to prosecute before the tribunals all those who make, import, or employ commercially, sell, or expose for sale, the invention patented. Personal use of the invention, when not commercial, is no infringement. The actual manu-

facturer—not the man who ordered the infringement—is the person to proceed against. The author, however, of plans and specifications from which the article is made, is held to be an infringer as well as the actual manufacturer.

If a machine be patented, but not its application, the maker only can be proceeded against, not the user, even if he uses it for a commercial purpose. The possessor of a counterfeit article, or of apparatus specially designed for working the process, is legally an infringer, if it can be shown that the intention of the possessor of said article or apparatus was to commercially use the invention, even if no such use be proved. If, however, he possess these articles as security for a debt only, or to use them only for his personal wants, and not to make a trade of them, he is clear of infringement.

Articles passing through the realm, in transit from one foreign country to another, are not liable to seizure; this holds good for nearly all European countries.

Any one or more of the joint owners or licensees of a patent, can become a party to an action for infringement before a civil tribunal.

Patent cases in Belgium are much cheaper and more quickly decided than in England.

If the plaintiff is resident abroad, he must deposit with the court security for costs in money.

Proof of private possession of the invention by a third party, prior to the date of the invention, does not invalidate the patent, but gives the possessor a legal right to infringe the patent during its continuance. The penalties for *knowingly* infringing are,—the confiscation to the patentee of the counterfeit articles and all apparatus specially destined for making them, the value in money of all counterfeit articles already sold, and damages for infringement. The penalties for infringing *through ignorance* are an injunction from continuing the infringement and assessed damages.

The articles aforesaid can be seized, even when pledged to another.

The court can in all cases, if it sees fit, and generally does, give the aggrieved party the right of publishing by public advertisement, at the cost of the infringer, the full or abridged account of the trial and sentence.

A patent can be declared null and void, if it be proved that the patent is yet unworked by the inventor, his licensees and agents, or assigns, in Belgium, and has been worked abroad with the knowledge of the inventor more than one year previously. Also, if said working be suspended continuously in Belgium for one whole year after it has been worked abroad. This provision of the law is very liberally interpreted in favour of the inventor. It having been decided that the working of any part of the invention or of a patent of addition, the public exhibition of the invention, or the importation of a part and granting of a licence to manufacture, is a sufficient working. Practically the date of first working abroad resolves itself into the date when the proof of working was officially made to the French, Austrian, German, or other government. The delay of one year can, prior to its expiration, frequently be prolonged another year by petition to government. The annulment of an original patent does not entail the annulment of a patent of addition, provided the taxes are continuously paid.

Patents can be annulled by the tribunals partially or entirely—If the description be intentionally obscure, or incomplete; if an important part has been withheld; if it be not an invention of man; if it be not commercial or industrial; if it be contrary to public law or morals; if it be not new; or if it has been commercially worked in the kingdom prior to the date of the patent by parties unconnected with the inventor. The annulment of the foreign patent on which it was based before the end of the term for which it was originally

granted, does not nullify the Belgian patent of importation.

A patent is good until pronounced by the administration to be cancelled; such pronunciation is final, and cannot be appealed against.

In selling a patent, the vendor, by the act, guarantees the validity of the patent at the moment of sale, and also the truth of statements of actual effects produced, mentioned in the patent; but he does not otherwise guarantee the utility of the invention, and does not make himself responsible for more than the amount of the purchase money, in case of forfeiture of his guarantee.

The usual cost of Belgian Patents of Invention or Importation varies from £8 10s. to £10 ($42½ to $50); Patents of Addition from £8 to £9 10s. ($40 to $47½). About 3,000 patents of all kinds are now secured yearly, and the total number had reached 50,183 in December, 1879.

BRAZIL.

(Population, 10,200,000.)

Maximum duration of patents, twenty years; but the term of each patent is fixed arbitrarily at the discretion of the government; usually only ten. No annual taxes. The invention must be worked within two years of the date of patent If the invention be patented in any other country, the government may pay the inventor a premium and annul the patent. At the same time it is always easier to obtain a Brazilian patent when it can be proved that the inventor has already secured it in the United States or Great Britain, especially the latter. Cost varies in each instance from £85 to £120 ($475 to $600). A new law is contemplated.

DOMINION OF CANADA.

(Population, 4,500,000.)

Patents are granted to the true and first inventor, or to his legal assigns. They are granted for five, ten, or fifteen years, but fall with the earliest expiring foreign patent, for the same invention. They are almost invariably taken out for five years, and afterwards extended. Patents for inventions, previously protected abroad, must be applied for in Canada within one year of the date of the earliest foreign patent for the same invention, and within one year, also, of their first introduction into Canada. The Canadian offices are very liberal on this point, and have, in urgent cases, accepted a telegraphed guaranteed application, by a responsible party, so that it might be officially entered within the required period. Any one commencing to work the invention in the dominion, prior to the date of the patent, can continue to use or sell the specific article so worked, in defiance of the inventor. But provided that working, &c., took place only within one year prior to the application, it will not invalidate the patent in other respects.

The applicant for a patent is required to make oath that he is the true and first inventor, and before the patent issues to him, must supply, if the case admits of it, a neat model, not more than 18 inches in any dimension; or, if the patent be for a composition of matter, a set of samples must be supplied, including a specimen of the composition, and of each of the ingredients used, except such as are disagreeable or dangerous to keep. These specimens must be neatly and separately packed in bottles, and labelled.

The model or specimens need not be supplied till the application is allowed (which it almost always is in Canada).

The invention must be "worked" in Canada, within two years of date of application, and must be continued in "operation" to such an extent that any one can purchase the products thereof at a reasonable price, or the patent can be annulled at the suit of any party. The obligations created by this latter clause have been construed in a recent legal decision to have been legally complied with by an inventor, who had advertised for orders, and arranged with a licensee to manufacture the article to third parties applying to him for it, even though no manufacture had taken place; any party suing for the annulment of a patent having first to prove that the inventor would not supply him with the patented article made in Canada, and at a reasonable price, on his tendering the money and giving the order for manufacture. The time for working is frequently extended on petition. The patent will also be forfeited if it be proved that goods made on the principle of the invention were imported into Canada with the knowledge or connivance of the owner of the patent, or any of his assigns, licensees, or agents, after the expiration of twelve months from the date of the patent. This clause, too, has been very liberally interpreted; the importation of a specimen machine to solicit orders with, and to act as a model to make others by, having been decided to be not a sufficient amount of importation to destroy the validity of the patent, even though sold and publicly worked in Canada.

If from any cause an inventor finds that his patent is invalid by reason of it claiming parts that were old at the date of the patent, or that were the invention of others, or that he has inadvertently not claimed a part of the subject matter of his specification that he might have done, and would like to do, he can either file a disclaimer of the old portion or surrender his patent, and obtain a new one for the unexpired term of the fifteen years, or any part thereof. The new or reissued

patent must, however, contain no fresh subject matter not set forth in the original specification.

The Government of Canada may always use any patented invention, paying such royalty as the Commissioner of Patents may decide to be proper.

All assignments to be valid against third parties must be registered at Ottawa; and if an inventor fraudulently, or by error, assign his patent to two different parties, the assignment that is registered first is the only valid one.

Infringers may be prosecuted for damages in the court of record of the district in which the infringement occurred. Such court can grant injunctions, damages, and costs.

If anything be added to, or omitted from, a specification, with evident intent to deceive or mislead, the patent is void.

In cases where an inventor wishing to perfect his invention by experiment before applying for a patent, fears that others may forestall him, he may file a caveat, that is, a description of his invention, to be kept secret in the Patent Offices at Ottawa, until such time as he patents the invention.

This caveat remains in force one year, and can be renewed *ad libitum*.

During the existence of a caveat, should another party apply for a patent for an invention infringing on that forming the subject of the caveat, the government is bound to give the caveator three months, during which to file his application for a patent, when, if the claims of the two specifications are found to interfere with each, a court, consisting of three sworn arbitrators, is appointed to decide who is best entitled to the invention. The arbitrators, skilled persons, one chosen by each party, and the third by the Commissioner of Patents, have power to compel the attendance of witnesses, to take sworn evidence, oral, or written, and

from their decision there is no appeal. A similar court decides all cases of interfering applications for patents; that is, cases where two independent applicants lay claim to the same invention.

All patented articles must be stamped "Patented," with the year of grant of patent, thus, "Patented 1877." Any patentee offering for sale any patented article not so marked, is liable to a fine not exceeding £20 ($100), or imprisonment not exceeding two months.

Anyone fraudulently marking any article with the word Patented, or any word or words of similar meaning, is liable to a fine not exceeding £40 ($200), or imprisonment not exceeding three months, or both, at the discretion of the court.

About 2,000 Canadian patents are secured per annum.

Usual cost of Canadian patent, 5 years,	£18 ($90).
" " 10 "	£23 ($115).
" " 15 "	£28 ($140).
Renewal from 5 to 10, or 10 to 15 years,	£7 ($35).
" 5 " 15 years	£12 ($60).
Caveat, one year	£6 ($30).
Working a patent	£6 ($30).

CAPE OF GOOD HOPE.

(Population, excluding the Transvaal, 800,000.)

Patents can be secured for fourteen years by the actual inventor, limited, however, by duration of prior foreign patent, and subject to a tax of £10 ($50) at the end of three years, and £20 ($100) at the end of seven years.

In almost all other respects the law is the same as the English, of which it is a copy. The jurisdiction of the Cape does not yet extend over the Orange Free State or Natal, the latter having a patent law of its own.

Only about two patents were taken out yearly at the Cape till the discovery of the diamond fields, and for some time after very few were secured, there being then no regular patent agent in the colony; but a civil engineer connected with the firm of W. P. Thompson & Co. having opened a patent office at Cape Town, in 1879, the number has rapidly increased, and is now about forty per annum. Cost of patent, £35 ($175).

CEYLON.

(Population, 2,500,000.)

Patents granted for fourteen years (with chance of extension for fourteen years more) to first inventor or importer. An inventor having patented an invention in the United Kingdom, can at any time secure it in Ceylon for the remainder of the duration of British patent. No annual taxes or compulsory working. About six patents are taken out yearly. Cost of patent, £30 ($150).

CHILI.

(Population, 2,300,000.)

Patents of invention are granted for not exceeding ten years for absolutely unpublished inventions, and for not exceeding eight years for inventions known abroad, but not yet introduced into the republic. The term near its expiration is frequently increased on petition in the case of really meretorious inventions. Each application before being granted is submitted to a scientific commission to decide whether it be novel and useful, and worth a patent. Their deliberations are kept secret, and according to their decision the patent is allowed or refused; from their decision there is no

appeal. The laws against infringers are very favourable to the patentee, and easily put in force. The cost of a patent varies considerably, but from £55 to £80 is the usual figure.

CHINA.

There is no protection for invention in China, hence why the arts have remained stationary there for many centuries.

DENMARK (AND ICELAND).

(Population, 2,000,000.)

Patents usually run from three to five years; almost always granted; take about three months to put through; must be worked during first year, and continually afterwards, on pain of forfeiture. They grant sole right of manufacture, but not of preventing the importation of similar articles manufactured elsewhere. They can occasionally be renewed if deemed specially meritorious. Cost, £18 ($65).

EQUADOR.

This republic grants patents to expire with a foreign patent previously granted, or if unpatented abroad for any number of years from five to twenty, at the discretion of the applicant. No government investigation as to novelty or utility. Cost about £44, and two pounds extra for every year the patent is demanded for.

FINLAND.

(Population, 2,000,000.)

Has a patent law independent of the Russian, but very similar to the latter. Cost of patent for twelve years, usually about £35 ($175).

FRANCE AND ALGERIA.

(Population, 40,000,000.)

Any one citizen or alien, being the true and first inventor, can obtain a patent. If two join in the invention, it must be taken out in their joint names, and each has the right to use the invention independently of the other In applying for the patent, no oath or declaration is required as in England and the United States, but the applicant is considered the true and first inventor, till proved to be the contrary.

If one man employs another to invent, the employer is legally the true inventor of any resulting invention. A patent dates from the hour of application; there is no preliminary examination, and all applications (if the documents are in order) are granted, but without guarantee of government. The French law and practice on what is a patentable invention is substantially the same as the English, with these exceptions,—Medicines and financial schemes cannot be patented.

A patent can be declared void at any time, if it be proved—

1st.—That it has been granted for a theoretical principle, the application of which to science has not been worked out.

2nd.—If it be contrary to public morals, law or order, or the regulation forbidding patents for medicines or financial schemes.

3rd.—If the patentee has not described the invention in the specification sufficiently to enable a competent workman, versed in the business nearest allied to it, to work the invention successfully without preliminary experiment.

4th.—If there be nothing new in the specification.

5th.—If the invention has been obtained by fraud from the first inventor.

6th.—If it be shown that the inventor purposely kept back a material part of the invention, or at the date of application knew a better mode of carrying out the invention into practice than that described in the specification, or if it be shown that he gave a title or inscribed anything in the specification with the evident intention of deceiving or misleading.

For the patent to be valid, the invention must be "new," that is, must not have been publicly used in the realm before the date of application, or described in any printed book in any country, or in any manuscript open to public inspection in any public library or patent office, in any country, in such manner that from the description, a man skilled in the trade could understand and work the invention. A French patent must therefore always be applied for before the English final or complete specification has been sent in, or American final fee paid. The fact of an invention proving extremely valuable on being introduced to the trade, is, as in England, *primâ facie* evidence of novelty.

In all cases, the burden of proof lies with the opposer, but he can interrogate the patentee, his servants and representatives, in France. A patent is, in all cases, held valid till legally proved to be otherwise.

Mere experiments, or secret use prior to the patent, do not nullify it, unless proved to have resulted in *commercial* success. Thus a patent for the manufacture of a pigment was held valid after it had been proved that the whole process had been published prior to the patent as a laboratory experiment. A French patent gives the same privileges in France that a British or American one does in their respective countries.

So long as any part of a patented invention be not proved to be old, or otherwise invalidated, the patent for that part of the invention is valid, even though all

the rest have been declared null and void by a court of cassation.

In selling a patent, the vendor guarantees the purchaser in the peaceable possession of his invention, to the amount of the purchase money; and should at any time the patent be declared void (if the vendor or any of his property be on French territory), he can be made to refund.

Should a part of the patent be nullified, a proportionate part of the purchase money can be similarly exacted by order of a court. A licensee is, in like manner, protected to the extent of the consideration paid for his licence, but not for royalties already paid.

A patent can be seized for debt.

On the annulling of a patent, all licences become void.

A patent lasts for fifteen years, subject, however, to an annual tax of 100 francs (£4 or $20).

This tax can be paid all at once, or by instalments, at any time; but a single failure to pay it on or before the day it comes due, nullifies the patent beyond redemption. The only excuse for non-payment of taxes ever held valid, was that made in 1871, that the Germans were besieging Paris, and the patentees could not communicate with the government. Accident, illness, agent's fraud, insanity, and death of patentee, have all been pleaded in vain.

A French patent also falls with the expiration of any foreign patent for the same invention of prior date.

If the owner of a patent, after being shown or convinced in any way that his patent is invalid, uses it as many patents are used in England, as a means of menacing his rivals in trade or their customers, he is liable to fine and imprisonment under the criminal code.

During the continuance of the patent, the inventor can make additions to his specifications at any time,

obtaining a certificate of addition therefor to expire with the original patent, and not subject to any other tax than that paid on applying for the certificate.

A certificate of addition granted to any shareholder or licensee of the original patent, becomes the joint property of all the proprietors in the same proportion as the original patent.

For the first year of the existence of a patent, no one but the patentee, or others holding rights under him, can obtain a certificate of addition based on the said patent, but any one during that period can file a secret application for such a certificate; then if his improvements are not claimed by the original patentee before the expiration of the said year, such certificate or certificates are granted to their respective applicants in order of priority of application. In such cases, neither the owner of the original patent, nor that of the certificate of addition, can use the other's invention without licence, and either party can pay the stamps to prevent the original patent (and consequently the certificate of addition) from falling void. Neither, however, can force the other to pay his quota. If both parties pay independently of each other, the government will accept both payments, and will return neither. There are no means of knowing whether a tax has been paid or not during the current month, but information of all payments up to within a month of date can be obtained on application at the Ministry of Agriculture.

A patentee can assign or licence his invention to other parties, either in whole or in part, and for the whole duration or a part thereof, but such assignment to be valid against third parties must be by notarial deed, and must be registered at the prefecture of the district in which the deed was executed.

An abstract of the registration is forwarded by the prefect to the Ministry of Agriculture and Commerce. The registration cannot be effected till the annual taxes

for the entire duration of the patent have been paid in advance.

A patent invalid by reason of insufficiency of description, cannot be made valid by a "certificate of addition," even though the added specification supplies the deficiencies of the original one, and makes it clear. Inexactitude is as bad as insufficiency of description, and equally nullifies a patent.

Certificates of additions must be for inventions designed to accomplish the same end as the original invention, otherwise they can be made null and void at law.

The Patentee who does not work his invention or make *bonâ fide* efforts to work it within the realm, within two years from date of patent grant (not date of application), or abandons the working of it for two consecutive years, loses all right to his patent.

If a third party works the invention during the two years, it suffices, it being immaterial to the question whether the inventor licensed him to do it or not.

If a part of the invention be worked, it is enough; working a machine having a slight difference in design but the same in principle to that patented, will be sufficient working. Substantial efforts to get the trade to take it up, advertising the invention for sale, and exhibiting it in a public exhibition, all severally constitute sufficient working to satisfy the law.

Proof of working should be duly registered within the two years following the grant of patent.

This proof of working is a very simple affair, and easily effected to a sufficient extent to satisfy the law. Exhibiting, making *bonâ fide* attempts to arrange a licence, and other equally slight matters, being held enough, and the patent agent usually attends to this at a charge of from £5 to £10 ($25 to $50). Poverty, the fact of the patent being held an infringement of an existing patent, and that there was no demand for the

invention at the time, have each been held sufficient excuses for not working a patent during the two years from date of grant.

A patent can be annulled if it be proved that the inventor, his agents, or anyone with his or their connivance, has imported into the realm a specimen of the patented article manufactured abroad.

In a recent trial, however, where a man in Paris contracted with an American inventor to manufacture the American's invention in France, and supply it at a given price to the American's customers, and the contractor, instead of doing so, employed an agent in the United States to buy off the inventor, and forward the machines to Paris, where they were regularly sold by the contractor, it was held that this did not invalidate the patent, and that the patentee was not bound to interfere in the matter, but could, and, in fact, does allow this singular trade to continue to his own and the contractor's benefit.

The Minister of Agriculture can authorize an inventor to introduce a single specimen of his invention by official permit; such permit could easily be obtained till lately; but since August, 1881, to the time of going to press in October, nearly all permits have been ruthlessly refused.

Importing the material for manufacture does not affect the patent. The article imported, to do any harm, must be in such a state of completeness that, if made in the realm, it would be held to be an infringement of the patent.

Whoever, in his advertisements, prospectus, labels, stamps, &c., uses the word "breveté" or "brevet" (patented or patent) in connection with the patented article, without adding the words, "sans garantie du gouvernment" (without guarantee of the government), is liable to be fined not less than £2 ($10), or more than £40 ($200). The initials s. g. d. g., though almost

universally used, have been held on one occasion not to be sufficient. Anyone using the name, title, or trade-mark of an inventor, without his sanction, or calling a thing "patent" that is not patent, can be made to pay damages to the inventor of a patent nearest resembling it.

Any interested party can enter a suit for the nullification of a patent. Any inventor in the same branch of industry is an interested party in the eye of the law.

About 5,500 patents are taken out every year in France, and the number secured, from 1844 to Dec., 1880, had reached 40,000.

Cost of original patent £12 to £14 ($60 to $70).

Cost of Certificate of Addition £10 ($50).

Annual tax and agency fee attending to and paying same, £5 ($25).

Securing certificate of working, £5 ($25).

Application for permit, £1 ($5).

GERMANY.

(Population, 48,000,000.)

Anyone, whether the inventor or not, can demand a patent, the first applicant in all cases getting the preference, unless a clear case of fraud or actual copying of drawings or designs without their author's consent be proved.

All new inventions that can be turned to account in trade are patentable, except foods, drinks, medicines, chemical substances and things the sale of which would be contrary to law or morals. A chemical process can be patented, but not the chemical itself. By new inventions is meant those inventions not publicly known or worked within the realm or described in a printed work in any country to such extent as to enable anyone to work the invention therefrom, consequently a German

patent cannot be obtained if applied for after the issue of the American patent, or the printing or publication of the English final specification.

A patent gives the owner the right to restrain others from manufacturing, trading in, or importing the article or using the process patented.

Anyone who has already used the invention in Germany before the date of the application for the patent, can continue to use it, even though such prior use has been kept secret.

Two separate inventions cannot be secured under one patent. This rule is rigorously enforced.

The Imperial and State Governments have a right to use the invention patented for Imperial or State purposes, but the patentee can claim compensation for such use. Such compensation, if not mutually arranged, can be obtained by applying to the courts of law.

A patent lasts for fifteen years from its date, subject, however, to an annual tax of 50 marks at the end of the first year, 100 at the end of the second, and so on increasing 50 marks each year. This, with agency charges, will come to £3 10s. ($17-50c.), £6 5s. ($31-25c.), £9 ($45), and so on, increasing £2 15s. ($13·75c.) each year.

An inventor can at any time obtain a patent for further improvements on his (existing) patent, for the same price as an original patent, to expire with the original patent. In this case the two patents are considered one in the eye of the law, and only a single set of annual taxes is required for the two.

A patentee is bound to arrange for the working of his patent in Germany, within three years of the date of grant thereof, on pain of forfeiture, and should licences be required, for the public interest the patentee is bound to grant them at a reasonable royalty. This rule is liberally interpreted; the being prepared to supply the demand is sufficient, and, if there be no

demand, the patent need not be worked till a demand springs up.

Persons not residing in Germany can make their application through a duly qualified agent or proxy residing in Germany, whose name is entered on the Patent Office records as representative of the patentee in all actions at law relative to the patent. (This is usually the correspondent of their patent-agent at home.)

The Patent Office is situated in Berlin, and its staff is composed of examiners appointed by the Imperial Chancellor and Federal Council. These examiners have power to call in experts.

The inventor must thoroughly explain the invention by specification, and such drawings, types, models, and patterns as may be required to make it clear. These are examined by the examiners, and if objected to, the applicant or his agent can alter them to suit before being published. Models are only occasionally required except in the case of guns, when they are invariably demanded. If the examiners disapprove of the application from any cause, their objections are put in writing and forwarded to the applicant; the applicant has then the option of rearranging his case to meet the objection or of appealing to the board of examiners.

In practice but one revision or one appeal is allowed; if returned unsatisfactory to the examiners, or rejected on appeal, there is practically no resource for saving the patent but the very expensive one of an appeal to the Supreme Imperial Tribunal of Commerce, or, if still unpublished, applying afresh for a patent. Many very valuable inventions are thus thrown open to the public, while others utterly puerile and worthless pass with ease.

Any one, during the eight weeks immediately following the date of publication, can oppose the grant of the invention on the grounds of fraud or want of novelty.

In case of opposition, all interested parties have the right of hearing at the Patent Office.

Should no opposition take place, the patent is officially granted.

The decisions of the Patent Office may be appealed against at the Supreme Imperial Tribunal of Commerce, provided the appeal be made within six weeks of the giving of the decision.

Deliberately and wilfully infringing a patent is a criminal offence, and the infringer is liable to a fine of not exceeding £250 ($1,250), or imprisonment for one year at most, besides damages to the injured party.

In criminal cases the injured party is entitled to publish the sentence at the cost of the condemned party, and in all cases may, beside the penalty, demand an amercement of £500 ($2,500) at most from the condemned party in lieu of damages.

No action can be brought for any infringement that took place more than three years before the date of the action.

A fine of £7 10s. ($37.50c.), or imprisonment, is incurred by any one falsely representing a thing to be patented, or by marking articles or casks, advertizing, or otherwise doing anything to induce people to believe that an unpatented article is patented.

All German state patents existing prior to July, 1877, are subject only to the laws of their respective states, and continue in force as heretofore.

During the existence, however, of any patent granted in any German state prior to July, 1877, the owner has the option of getting an Imperial patent for the invention operative over the whole of Germany, provided the invention be one that, at the date of application for the separate state patent, could have been pronounced patentable under the present Imperial law.*

* Subject also to the right of those already using it to continue such use.

In such cases the Imperial patent is dated and held in every respect as if applied for at the date of the earliest dated individual state patent for the same invention, and an Imperial tax must be paid before the grant of the German patent equal to the estimated next annual tax of an Imperial patent bearing the date of the original patent.

It will be seen at once that as German patents are published almost immediately after application, and are granted irrespective of the duration of foreign patents, it is best in all cases to apply for English, French, Austrian and other patents before or simultaneously with the German one. Printed copies of his own patent specification, and drawings, can be obtained by a patentee immediately after grant at almost cost price.

In December, 1880, the number of patents issued since the opening of the Patent Office at Berlin, July, 1877, had reached 14,000, and probably quite as many more had been applied for and refused.

The usual cost of a German patent is £15 to £20 ($75 to $100).

GUATEMALA.

(Population, 1,200,000.)

This republic grants patents for new inventions for a term of years, differing with each patent. There is a preliminary examination, but the patent is usually allowed, and kept secret. Cost, about £52.

GUIANA (BRITISH).

(Population 200,000.)

The original inventor can obtain a patent for any invention not yet at work in British Guiana, to last

fourteen years, subject to a stamp duty of £20 ($100), before the end of the seventh year; but liable to be declared null and void on the expiration of any prior foreign (or British) patent. Very few patents are taken out, and these chiefly agricultural.

Cost provisionally one year, £25 ($125). Completing same £30 ($150).

GREECE.

(Population, 1,700,000.)

A special act of Legislature is required to obtain a patent. Very few are applied for, but the cost varies from £40 to £50 ($200 to $250).

HOLLAND.

(Population, 4,000,000.)

No patents of any kind are allowed, but there are strong efforts now being made to introduce a patent law again.

INDIA (BRITISH).

(Population, 191,000,000, or, with native states, 288,000,000.)

Duration of patent fourteen years, with renewal on petition for another term of fourteen years, at the option of the Governor-General in Council. None but the actual inventor, his assignee, or legal representative, can obtain a patent. The invention must be *new*, by which is meant, neither published nor used in the United Kingdom or India previous to application. If, however, it should appear that it had become known or

used only since the application of a British patent, provided the Indian application shall have been made within a year of the British one; or if the knowledge of it has been obtained surreptitiously from the inventor, and only published or used within six months of the date of the Indian application,—the inventor's patent will still be valid. A petition describing the invention is presented to the Governor-General, and by him referred for investigation to any person or persons he may choose. A report is made, favourable or otherwise:—if the former, an order allowing the specification to be filed is granted, with whatever conditions may be thought desirable annexed. The specification must be filed within six months of the date of order, and a copy sent to each of the four Presidencies.

An infringer cannot plead in defence of his infringement that the patent is invalid, except on the grounds of want of novelty; but he can apply to the Courts of Judicature to have a part or the whole of the patent nullified, not merely on the ground of want of novelty, but also on any ground for which a patent would be declared null and void in England, with the following exceptions:—

1st.—There are no taxes to pay at the end of the third and seventh year, so a patent cannot be invalidated through failure to pay these. 2nd.—Unless it can be proved that the inventor claimed old matter, knowing it was old, only that part of the patent which was old can be nullified, instead of the whole, as in England. Disclaimers can be made as in England.

Only about a hundred patents are taken out yearly in India, the British and American public not having yet become sufficiently alive to the value of Indian patents, but the number is rapidly increasing, and of the rather numerous patents applied for through W. P. Thompson & Co.'s Patent Offices, none have ever been refused.

Cost of Indian Patent, £30 ($150).

IRELAND.

See Great Britain.

ITALY.

(Population 28,000,000.)

Maximum duration of patents fifteen years, limited however, by duration of prior foreign patent granted *for the longest term.* Only a single invention can be included in one patent. Medicines cannot he patented ; but with this exception, the Italian law is identical with the British as far as regards "who can patent," "what can be patented," and "the privileges a patent confers." The limit within which a certificate of working must be obtained is, for a patent having a duration of less than six years, one year ; for one of six years or over, two years. A further delay on petition may generally be obtained on such a plea for instance as "want of capital."

Protection dates from the day of application. Applications can be made for a less number of years than fifteen; and the patent thus obtained can, at any time, before the expiration of its term, be renewed for a further period not exceeding fifteen years from date of original patent. As every prolongation costs £7 ($35), beside the difference in first cost between a patent for the original and the extended term, prolongation should be applied for as seldom as possible. The usual plan is to secure a patent for three or six years, and get a prolongation at the expiration of that period, to the end of the fifteen years allowable. Certificates of addition, that is, patents for additions or improvements on the original invention, are granted as in France and Belgium, free of annual tax, but expiring with the original patent. During the first six months, none but the original patentee can apply for

certificates of improvement on his patent; and during this period, the inventor can enter disclaimers, or, as it is technically described, "obtain certificates of reduction." There are two kinds of taxes on patents, the "proportional tax," varying with the duration required, paid on applying for the patent or prolongation, and included in the cost of same, and an "annual tax," gradually increasing in amount from £2 10s. ($12\frac{1}{2}$) the first year, to £7 10s. ($37\frac{1}{2}$) the last year, including agency charges, payable on the last day of March, June, September, or December next ensuing after the anniversary of the date of application for the patent.

About five hundred and fifty patents are now granted yearly, and the number obtained annually is rapidly increasing. Cost of Italian patent, including first year's annual tax,

One year	£15	($75).
Six years	£18	($90).
Fifteen years.....	£24	($120).

Cost of renewal equals £7 ($35) + the difference in cost between the two terms, thus:—

Cost of renewing a one year's patent
For five more is .....£7 + 18 − 15 = £10 ($50).
Cost of certificate of addition ..... £11 ($55).
Cost of certificate of reduction (disclaimer) ..... £10 10s. (52\frac{1}{2}$).

JAPAN.

(Population, 34,000,000.)

There is an excellent patent law in this country, but it has never been put in force, there being no patent commissioner appointed, no patent office or officials, and no patent agents. Efforts are now being made to remedy this.

LIBERIA.

(Population, 1,000,000.)

This country has a very liberal patent law; grants patents for fifteen years; must be worked within the first three years. Cost of patent, £82.

LUXEMBOURG.

(Population, 200,000.)

This principality, under the crown of Holland, has a patent law in most respects identical with the Belgian. It is generally useful to protect an invention in Luxembourg when patents are obtained in the surrounding states of Belgium, France, and Germany. Cost of Luxembourg patent, £8 10s. Annual taxes as in Belgium.

MAURITIUS.

(Population, 800,000.)

This island, and also dependences, has a patent law very similar to the Indian, and everything hereinmentioned in regard to the Indian law is applicable to Mauritius, except that the law as regards old matter is identical with the English, and not with the Indian. Cost of Mauritius patent £30 ($150).

MEXICO.

(Population, 9,500,000.)

Duration of patents, ten years, with chance of prolongation. Invention to be worked from starting, but this is systematically evaded. Native workmen must

be employed where possible to the exclusion of foreigners. The government fixes a tax on each patent (arbitrary in each case), gives very little protection, and is notoriously unsettled. Very few patents are taken out, and these almost solely by North Americans. Cost uncertain.

NATAL.

(Population, 380,000.)

The law is almost a copy of the English patent law, except that the stamp duties are lowered, and the procedure in obtaining a patent is slightly different.

The cost of a patent is usually, including agency—

Provisional protection, six months	£10 ($50).
Completing same	£17 ($85).
Third year stamp	£8 ($40).
Seventh year stamp	£18 ($65).

NEW SOUTH WALES.

(Population, 800,000.)

Duration of patents, seven to fourteen years. Patents granted only to the inventor, his assigns, representative, or duly authorised agent. No model required; no annual or other taxes after the patent is obtained, and no compulsory working.

The law as regards infringers, what is new (and almost everything indeed but procedure in obtaining a patent, government stamps, and the above particulars) is founded on British law, and is identical with it. About seventy patents are secured yearly, and the number is rapidly increasing. Cost of patent, £40 ($200).

NEW ZEALAND.

(Population, 460,000.)

Letters patent are only given to residents in the colony, but letters of registration equivalent to letters patent are obtainable by an alien (if he be the actual inventor or his assignee). A duly certified copy of the British or other patent, on which the application is founded, together with a certificate that the applicant is still owner of said patent, must be presented. The invention has to pass an official examination before being allowed, and, in case of a chemical patent, specimens of the compound and of its ingredients must be deposited. A notice of the application is advertised for four months, when, if the examiner is satisfied, and all has gone smoothly, the documents can be filed, and letters of registration obtained, expiring with the original patent.

There are no taxes after the grant of the patent. In all other respects English law and practice is strictly followed, and decisions of English courts are held binding in colonial ones. Patents of addition can be obtained by the patentee without forwarding a foreign patent. About forty of all kinds are taken out yearly, and the numbers increase in at least equal ratio with the population and wealth of the colony. Cost of letters of registration, or of patent of improvement, £33 ($165).

NORWAY.

(Population, 1,800,000.)

Duration, ten years or under, at discretion of the government. The invention must be worked in the kingdom within the first two years of grant. After half the period of duration has expired, the invention

must be officially published at a cost to the owner of ten specie dollars. If the invention be worked by the grantee or his licensee in any market town, the person so working it must become a citizen of the said town. About sixty patents are secured per annum. Usual cost of Norwegian patent, £13 ($65).

PARAGUAY.

(Population, 300,000.)

Has a good patent law, but it is little used, and the country is very unsettled. Cost uncertain.

PERU.

Peruvian patents are very cheap to a resident, but almost unobtainable by a non-resident. At present the Provisional government have too much fighting on hand to think of granting patents.

PORTUGAL.

(Population, 4,800,000.)

The inventor or first importer, as in England, can secure a patent for an invention new in the realm. By new, means not described in any book, print, drawing, model, or other object in the possession of any person in the realm not being of the household of the applicant.

Maximum duration of patents, fifteen years; cannot be prolonged; and imported patents also expire with original foreign patent. No patent for improvements on an article already patented will be granted, except to the original patentee, during the first year after the original patent is granted. Applications, however, can

be made by others, and their dates will be noted, when, if their ground has not been covered by the patentee himself during the first year aforesaid, patents of improvement will be granted to the applicants in order of priority of date. Patents of addition are granted as in France. Medicines, food, simple changes in the form of objects already patented, and ornaments, cannot be patented. Patentees must work their inventions during the first half of their term, and must allow the public free inspection on two stated days in each month. In the case of chemical patents, £200 ($1,000) has to be deposited with the state, and three times during the duration of the patent the entire process must be publicly exhibited; the occasions being duly advertised beforehand. Heavy fine, imprisonment, or forfeiture of the £200 being penalty of neglect of these provisions. Books, music, designs, sculpture, as well as inventions properly so called, come under this law with slight modifications. All infringements are decided before arbitration judges, and their decisions are final. Knowingly infringing a valid patent is a criminal offence. After a quiet possession of a patent for half its duration the validity of that patent cannot be impugned. No annual taxes. About twenty-five patents are granted yearly. Cost, £35 ($175).

QUEENSLAND.

(Population, 300,000.)

The law and costs are exactly the same as those of New South Wales.

RUSSIAN EMPIRE.

(Population, 84,000,000, exclusive of Finland.)

Duration of patents, three, five, or ten years. Importation patents limited by duration of prior foreign

patents. Any inventor can obtain a patent in Russia. It must be for some new and useful art, machine, manufacture, or composition of matter. By new is meant not in actual use in the empire, or to be found in any printed paper or book in any library in the country, or in any production printed or publicly distributed in the realm. Russian patents must therefore be applied for in Russia before the English blue book or copy of the American or German patent reaches the patent office library in St. Petersburgh. The patentee enjoys the same rights in the empire that a British patent gives in the United Kingdom. Patents are not granted for trifling and unimportant inventions, or for abstract principles without their practical application, as for instance, "for distilling brandy by steam."

As in the United States, a model is by law required where the case admits of one, but is frequently dispensed with. The novelty and utility of the invention are rigidly but fairly investigated by the committee of manufactures before letters patent are granted. Inventions already patented in other countries, and merely "communicated from abroad," are granted for only six years, limited also by duration of prior foreign patents; their cost, too, is greater than that of other patents. Applications in the name of the inventor himself (unless becoming void by failure of a prior foreign patent) are granted at the option of the grantee for three, five, or ten years. No patent can ever be renewed.

If, while an application be pending (and it requires about eighteen months to get a patent through the Russian office), another person applies for the same invention, both applicants are refused, unless one agrees to withdraw. This rule, singularly enough, has never been known to be abused, though it apparently lays the field open to wholesale confiscation of patent rights by unscrupulous opponents. Except for this danger,

the long delay is an actual advantage to the inventor, as his right to sue infringers dates from the day of application, while the duration of his patent dates from that of grant. Thus, virtually, a ten years' patent lasts eleven and a half years.

About one-half of all applications are refused, but this is owing to two circumstances—1st, That large numbers of very foolish patents are applied for; and 2nd, Many patent agents abroad are ignorant of the fact that an invention already published abroad, and consequently to be seen in the Russian Imperial Library, cannot be validly patented. Our correspondents in St. Petersburgh, who do a larger business in "international" work than any other Russian patent agents, have succeeded in obtaining patents in at least 90 per cent. of all applications made through them.

If a patent be refused, a large part of the sum paid on application is returned.

The invention must be worked at least once in the empire during the first quarter of the period for which the patent has been granted. Public companies cannot obtain, licence, or purchase patents without special permission from the department. About 160 "ten-year" patents, 90 "five-year," and 25 "three-year" patents are secured yearly.

Cost of Russian patent, Three years, £32 ($160).
" " Five years, £40 ($200).
" " Ten years, £84 ($420).

Cost of changing a three-year to ten-year patent any time within six months of *application*—a change is rarely allowed after that period—£55 ($275).

Separate patent for Finland, twelve years, £35 ($175).

SOUTH AUSTRALIA.

(Population, 263,000.)

The law up to January, 1878, was the same as in New South Wales. It has now been altered and greatly improved.

A caveat, similar to those described under the laws of the United States and of Canada, is granted for a small fee, to any applicant desiring to provisionally protect his invention. This caveat continues in force for one year, and is renewable. The first cost of a patent has been considerably reduced, but there is a tax to be paid before the end of the third and seventh year, or the patent becomes void. The actual inventors, their executors or assigns only, can obtain patents for inventions, and only for such as have not yet been publicly used or offered for sale in the colony. A patent lasts for fourteen years.

Total cost of patent, if unopposed, £30 ($150).

Cost of caveat, £10 ($50). Third and seventh year taxes, including agency, £9 ($45).

SPAIN AND COLONIES.

(Population, 25,000,000.)

A Spanish patent covers the entire empire of Spain, that is, Spain, Balearic Isles, Cuba, Porto Rico, and the Philippine Islands.

Any person, subject or foreigner, can obtain a patent. The latter is granted without examination or guarantee as to novelty or utility.

Patents are granted—

1st.—For hitherto unpublished inventions. These are granted to the inventors only, for twenty years.

2nd.—For inventions not patented abroad more than two years, and not yet publicly worked in Spain. These are granted to their inventors for ten years.

3rd.—For inventions not yet worked in Spain, though known at the Conservatory of Arts. These are granted to the person who will first start the manufacture in Spain, for five years.

4th.—For additions or improvements on previously patented inventions. These cost about £1 ($5) more than other patents at start, but are free from subsequent taxes. They expire with the original patent to which they are attached.

The law as regards what is a patentable invention under the first of the above classes, and except as regards novelty in any of said classes, is substantially the same as in England, except that medicinal preparations cannot be protected, and the practice is much stricter on the point that two inventions cannot be embraced in one application.

The validity of the patent is dependent upon the punctual payment of an annual progressive fee of 20 pesetas before the end of the first year, 30 before the end of the second, 40 the third, and so on; thus, with agency charges, war office tax, &c., comes to £2 8s. ($12) the first year, £3 ($15) the second, £3 12s. ($18) the third, &c., the tax increasing 12s., or $3, each year.

The patent, when granted, is dated back to the day and hour of application in Madrid; but it usually takes two months for the officials to get through the routine and deliver the actual documentary grant.

A patentee applying for a patent of addition for an improvement on an invention for which he has an existing Spanish patent, takes precedence of any other applicant applying for the same improvement as an original patent.

All assignments of patents must be registered at the Conservatory of Arts (Madrid) before they become valid

against third parties. This register is always open to public inspection.

As in most other countries, if it be found that the specification does not fully and correctly describe the invention and its objects, so that any one could work it who is conversant with the branch of art to which it is nearest related, or if there be clear evidence of deceit or of a reservation of valuable information on the part of the patentee in drawing up his specification, the patent will be declared void.

All patented inventions must be worked somewhere in the Spanish dominions within two years of the date of the patent, or the patent becomes void; and this applies also to patents of addition, the working of which does not require to be proved in most other countries. This working must be proved at the expense of the patentee to the satisfaction of an official appointed by the director of the Conservatory of Arts, or, in other words, the Commissioner of Patents. The article must be actually manufactured in Spain, and the expense of proving, when done, by our agency, exclusive of cost of manufacture, is usually about £12 ($60). The patent can be annulled after this working if at any time it be shown that the working of the invention has been entirely interrupted for a period of one year and a day, unless the owner can show good cause for such interruption.

Infringers of patents are liable to a fine of from £8 to £80 ($40 to $400) for the first offence; if, after being fined, the infringer again infringes within a period of five years, he is liable to a fine of from £80 to £800 ($400 to $4,000). Persons knowingly assisting in such infringement lay themselves open to a fine of from £2 to £8 ($10 to $40) for the first offence, and of from £8 to £80 ($40 to $400) for the second. All counterfeit products seized become the property of the patentee, and all damages made good; and if the fines and damages

be not promptly paid, imprisonment for an equivalent period is the only alternative. In infringment trials, the infringer can plead invalidity of the patent, and get his conviction suspended till the validity of the patent has been tested by the public prosecutor before a jury of experts.

The spirit of enterprise is rapidly rising again in Spain; and at the present time there is a great demand for manufactures requiring small capital to work them. Patents for small domestic articles, stationery, simple articles of husbandry or connected with the wine trade, mining, and guns and pistols, are especially sought after, and such can be sold for very large sums. W. P. Thompson & Co.'s agency in Madrid is the oldest in Spain, and has branches all over the country, not merely for obtaining, but for selling, patents on commission, and has been very successful in this line, having obtained as much as £30,000 ($150,000) for a single patent.

Cost of Spanish patents, from £16 to £20.

STRAITS SETTLEMENTS.

(Population, 350,000.)

These include Singapore, Penang, Province Wellesley, and Malacca. The patent law is very similar to the British; but any inventor possessed of a British patent can have the same registered at any time in the colony so as to be operative over the settlements.

Cost of registration, £28. Cost of original patent, £35.

SWEDEN.

(Population, 4,600,000.)

Duration fixed by the Chamber of Commerce, in each

instance, never longer than fifteen years, and will be limited in any case by duration of prior foreign patent. All inventions which would be patentable in England are patentable here; but trifling and frivolous improvements, especially if relating to inventions already at full work in Sweden, are rigorously rejected. The invention must not have been worked in the kingdom. None but the inventor himself can validly obtain a patent. If a patent be not opposed within eight months of date of patent, no opposition can afterwards succeed in invalidating it. Within from one to four years (usually two), according to the discretion of the Chamber of Commerce, the owner of the patent must officially prove that the invention is fully at work in the kingdom, and this proof must be reiterated yearly, during the continuance of the patent, on pain of forfeiture thereof. About three hundred and twenty-five patents are granted yearly, and the number per annum rapidly increases. Cost of patent varies greatly with the length of the specification, as a large part of the cost is caused by the official publication of the entire specification three times in the *Gazette*, which publication has to be defrayed by the patentee. For average specifications £18 ($90) may be reckoned a fair price for a Swedish patent.

SWITZERLAND.

(Population, 2,800,000.)

No patents of any kind are granted at present in this republic, except by one or two of the smaller cantons. Several bills have lately been introduced into the federal legislature, however, one of which is likely to be passed, almost identical with the German law. The cost of application, should this act be passed, will be about the same as in Germany, but the annual taxes will be

less. If the bill become law, and be published before this work goes to be bound, an abstract will be given in an appendix.

TASMANIA.

(Population 120,000.)

Law same as in Victoria. Only about twelve patents are applied for yearly. Cost £33 ($165).

TURKEY.

A new patent law has just been passed, very similar to the French. The cost will probably be about £20, and £5 annual tax.

UNITED STATES.

(Population 51,000,000.)

Duration of patent seventeen years, except where the invention has been completely patented in a foreign country previous to the date of application in America, in which case the American patent falls void with the termination of such foreign patent, should that event occur before the end of the seventeen years. Any person, citizen or alien, even a minor or married woman, being the original inventor, registered assignee, executor or administrator of original inventor, can obtain a patent. There is one exception to this, however,—No employé of the Patent Office can validly obtain any interest in a patent except by inheritance. The invention must not have been in public use in the United States more than two years previous to the application, must not have been abandoned to the public, and must not have been

fully described in any printed publication, or have been patented by another party in any country prior to its invention by the applicant. By "full description" is meant such description as would enable a competent workman to work the invention successfully, without experiment or inventive talent. The mere use, however, of the invention abroad will not prevent any other person inventing it independently, from validly patenting it in America, provided it has not previously been fully patented by any other person in any other country, or appeared anywhere in print. English provisional protection or registration is not a "full patent" within the meaning of this section.

When a patent is granted, the right in the subject matter relates back to the time of the invention, so that the party who has practised the invention between the time of the discovery and the issuing of the patent, must cease to do so, or can be sued for infringement. The same is true of acts done in violation of a patent which is surrendered and re-issued on account of defects in the specification (see page 75). Any person, however, who has purchased or constructed any newly-invented machine, manufacture, or composition of matter, prior to the application by the inventor or discoverer for a patent, has a right to use and vend to others to be used the specific machine, manufacture, or composition of matter so made or purchased—without liability to the owner of the patent.

A patent can only cover a single invention, but that invention may consist of several parts all tending to a common manufacture, and working one with another to the same end. The American practice is far stricter than the English, but still, where a combination of several parts is patented, the patent can be made to cover each new part taken separately, as well as the combination.

Similarly one patent can cover an article of manu-

facture, and a special machine or process for manufacturing it.

The duration of a patent can be extended only by a special act of the United States Congress. "Any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter," can form the subject of a valid patent. The invention, to fulfil the definition "useful," must be capable of *some use*, but the amount of utility is legally unimportant.

The American Patent Office is the most perfect institution of the kind in the world, but unfortunately has twice suffered seriously by fires, once in 1836, when the entire records, models, &c., were burnt up, and one in 1877, when a large wing of the beautiful museum of models was destroyed. Each application in America is rigidly examined as regards novelty; there being a staff of one commissioner, one assistant commissioner, one hundred and two examiners and assistant examiners, and a large number of clerks and copyists.

Every applicant must produce a specification and drawing made according to the rules of the Patent Office, which are very exacting, and in some cases where the examiner considers that it is essential to the proper understanding of the invention—a model. This model must not be over one foot in length, width, or height, and if made of pine or other soft wood, must be painted, stained, or varnished. Glue must not be used, and it must be capable of resisting without damage the action of ordinary heat and of moisture. The name of the inventor, and the exact title of the invention, must be affixed to it in a permanent manner. In patents for compositions, specimens of the article and of each of its ingredients (when not dangerous or liable to decomposition) may be requisitioned by the examiner to be provided, in neatly labelled bottles. The law in regard to the specification is substantially the same as

that of England, but in practice a specification that would be admirable in England as claiming the invention concisely and clearly, would be utterly invalid in America as setting forth a principle, while the usual run of specifications drawn by American patent solicitors are notoriously valueless in England, from their omitting to claim the principle, or anything more than the specific application of that principle as shown. The fact is, while English courts construe the claim rigidly, but admit the right of the inventor to *claim* all applications of a new principle, if he sets forth one such application and sets forth the principle in his claim, the U. S. courts hold a patent invalid if it claim a principle, or even a special adaptation of a principle "and its mechanical equivalents." At the same time, while rigorous in disallowing all claims for principles, the U. S. courts are extremely liberal in construing claims, and adjudge everything to be an infringement, if the same result be attained by equivalent means operated on the same principle as the adaptation claimed, though there be no infringement of the *actual words* of the claim.

In the words of Justice Nelson, in Blanchford *v.* Beer, "No man can appropriate the benefit of new ideas which another has originated and put into practical use, because he may have been enabled by superior mechanical skill to embody them in a form different in appearance or differing in reality. For although he may not have preserved the exterior appearance of the previous machine, he may have appropriated the ideas which give to it all its value."

If, however, another inventor discovers a new mode of accomplishing the same object embracing fresh principles, and not mere mechanical equivalents of the original invention, the Government will grant a patent to the second inventor, and the new mode will not be held an infringement of the older patent.

The applicant must make oath or affirmation that

he verily believes himself to be the true and first inventor, and that he does not know and does not believe that the same was ever before known or used—or, if it be already patented abroad, he must state, on his oath, where it has been patented, and that it has not been used in the United States to the best of his knowledge and belief, for a period of more than two years prior to the date of application in that country.

The specification and drawings having been filed with the necessary fees, the invention is examined by the examiners of the class of inventions to which it relates (each examiner having all applications on certain specified subjects or classes, apportioned to him). If the invention be, in the opinion of the examiner, new, useful, and important, it is granted; if otherwise, it is referred back to the applicant or his agent with objections, and references to prior inventions covering part or all the ground of the invention. The applicant is then permitted to alter his claims to obviate the objections, when it is again examined. Should the examiner eventually reject it, appeal can be made at moderate rates to a board of three examiners, and again, if desirable, to the commissioner, and even from him to the Supreme Court of the District of Columbia. The examiners, as a rule, however, are very just and liberal in their decisions, and very few appeals are required, when we consider the vast number of applications (20,000 a year).

A patent can be granted and issued, or "re-issued," to the assignee of the inventor, but the assignment must first be registered at the patent office, and in all cases the original inventor must take the oath, and sign the specification. The executor or legal representatives of a dead inventor can take the oath, and obtain the patent in trust for his heirs.

If an application be granted, a final fee of £4 ($20) has to be paid within six months, or the patent becomes

void; should, however, this voidance accidentally take place, any person having an interest in the invention can, during the next two years, make a fresh application for a patent for the said invention. A patent can be sold or assigned, in whole or in part, by an instrument in writing, but that conveyance is not binding against any subsequent purchaser or mortgagee, purchasing or mortgaging in good faith, unless it be registered in the patent office within three months of the date of the document. Licences need not be registered. Joint owners of a patent without special agreement are not partners, but each can work the invention independently of each other, and grant licences to third parties, retaining all profits resulting therefrom.

The holding of a simple licence, without covenants or recitals, acknowledging the validity of the patent, does not prevent a licensee from afterwards contesting the validity of the patent, and using its invalidity as a plea for not paying royalty or for infringing.

Persons who have constructed or purchased a newly-invented article, before the date of the patent, and with the knowledge and consent of the patentee, are allowed to use, or sell to others to use, the specific article so made or purchased, without liability therefor. Infringement of a patent consists in making, using, selling, or importing the patented article or process without licence from the patentee. A mere workman employed by another is not an infringer, but his employer is. Sale by a sheriff is not an infringement. The sale of articles produced by a patented machine or process, if not themselves patented, is not an infringement.

All patented articles should be inscribed with the word "Patented," and the date of the patent; but if this be impracticable, owing to the nature of the article, the inscription can be placed on the case or wrapper instead. Any patentee failing so to mark his goods will be debarred from obtaining damages in a suit for in-

fringement, unless he prove that the infringer continued to infringe after being duly notified of the infringement.

Any person wrongfully marking anything as "Patent," "Patented," or other similar expression, or with the name or trademark of a patentee with the purpose of deceiving the public, is liable to a penalty of £20 ($100) for each offence, one-half of which goes to the informer prosecuting.

Any citizen of the United States, or alien, who has been residing for the previous twelve months in the United States, and has made oath of his intention to become a citizen, having an unperfected invention which he wishes to provisionally protect while making a model or experimenting to perfect it, can file for a small fee a "caveat" in the patent office, setting forth the distinguishing features of his invention, and praying for protection of his right till he has matured his invention. This caveat is filed in the secret archives, is operative for one year, and can be renewed again and again. If, during the term of the caveat, an application be made by any one for a patent with which such caveat would in any manner interfere, it is the duty of the commissioner to file the drawings, model, and specification of the new applicant in the secret archives, and call upon the caveator to file his specification, drawings, and model, if required, within three months.

Whenever an application is made which, in the opinion of the commissioner, interferes with any pending case, or unexpired patent, notice is given to both parties, and the primary examiner, after hearing both sides, decides which was the prior inventor. The patent, or disputed claim, is then granted to the one adjudged by the examiner to be the rightful owner, unless the adverse party appeals to the "Board of Examiners in Chief."

The question of priority of invention does not consist in who first conceived the idea, but who both first conceived it and first worked it out into practical suc-

cess. The mere first conception, if not diligently worked out, will not be held of value against a subsequent inventor who worked out the invention first into a practically useful result.

The patent office is to all practical purposes a patent court as far as deciding the point as to who is the rightful applicant of an invention, and the commissioner can summon witnesses and take evidence in the same manner that a United States court can. The clerk of any United States court can (at the demand of any party having a suit pending at the patent office) subpœna a witness to give evidence or make depositions or affidavits before a duly qualified officer, anywhere within forty miles of said witness's residence. Witnesses, however, can refuse to testify unless paid the prescribed rates, and no witness can be called upon to describe a secret invention. Appeals from an examiner can always be made to the Board of Examiners in Chief, and from them to the Commissioner, and from him again to the Supreme Court of the district of Columbia sitting in banc.

If, after a patent be obtained, the owners find that through accident, inadvertence, or mistake, the specification was unintentionally drawn up so as not to sufficiently or correctly explain the invention, or to claim all of the invention set forth in the specification, drawings, or model, he can surrender the patent to the government, and demand one or more new ones for the unexpired portion of the term of the original patent, setting forth and claiming the invention fully. The cost of this re-issue is frequently little if any less than that of the original patent, but no fresh model is required. The specification and claims are examined and dealt with by the examiners the same as if forming part of an original application. The patent when thus re-issued is as good against infringements taking place after the date of re-issue as an original patent could be, but it cannot be used against infringements made prior to the date of

re-issue. No *new* matter can be inserted in a re-issue patent, but only such as can be reasonably shown by the model, drawings, or specification to have been intended to form part of the original specification. This re-issue system has its disadvantages, among which are the following:—1st,—that it lays open a door for fraud, as the models are not so carefully kept but that one might be slightly altered to found a re-issue on; 2nd,—that no sooner does a successful invention make its appearance, than all the owners of patents for worthless schemes in any way resembling it at once set to work to see whether by a re-issue of their patents they can make them cover part of the ground of the successful patent, and thus blackmail its owner. To such a pass indeed has this gone that prudent inventors look up all patents capable of being used in this way, and purchase them, if possible, before their own superior inventions become known.

If the owner of a patent discover that, through ignorance or accident, his patent has been made to cover matter of which he or the original patentee of his patent was not the true and first inventor, his patent is still valid for those portions of his invention that are new, provided, as soon as possible after he becomes convinced of having claimed more than is rightly his, he files a disclaimer at the patent office disclaiming the portion not legally his own. This disclaimer, if in due form, and accompanied by the required fee, is always allowed, but it must in no way enlarge the scope of the claims. The patent is now unimpeachable, on the ground of having previously contained what was old. The filing of a disclaimer has no effect on an action pending at the time for infringement of a sound part of the patent, unless the infringer prove that the party disclaiming unreasonably neglected or delayed to file the disclaimer, in which case the infringer will gain his case with costs. In this matter of disclaimers the United States law

gives ample justice, and is vastly superior to the British.

Should two patents have conflicting claims, the owners of either may bring a suit in equity in the nearest United States circuit court against the owners of the other interfering with them to stop such interference: separate state courts having no jurisdiction. The court can adjudge and declare either patent void, in whole or in part, and decree costs, and also damages to the successful litigant not exceeding in amount three times the actual damage proved to have been sustained. In case where an applicant of an invention already patented by another party proves before the examiner of interferences that he himself was really the first inventor, the second patent will be granted, and the two patentees can then fight the case out in the law courts as described in the last paragraph, the patent office having no power to annul a patent actually granted.

In cases of infringement the defendant can successfully plead any of the following pleas:—

1st.—That the patentee kept back a part from, or added something to his specification with intent to deceive or withhold from the public a valuable part of his invention.

2nd.—That the patentee surreptitiously or unjustly obtained the patent for that which was in fact invented by another, who was using reasonable diligence in adapting or perfecting the same.

3rd.—That the alleged invention had been patented or was described in print before the patentee's supposed invention or discovery thereof.

4th.—That the patentee was not the original or first inventor of any material part thereof.

5th.—That the said invention had been in public use or on sale in the United States for more than two years before the patentee's application for the patent, or it had been abandoned to the public.

If none of these pleas be sustained, and the infringement be proved, the court can assess damages sustained, and increase the amount at its discretion, levying the amount from the infringer.

If the plea should be sustained that a certain material part of the patent is old, but at the same time it be found that the patentee was ignorant of the fact, and that another material part of the invention has been infringed, the case will be decided against the infringer, but without costs.

To successfully plead abandonment of the invention to the public, it is necessary to show that the invention was publicly used, worked, or sold extensively in the United States by parties independent of the inventor, with the knowledge and tacit or expressed concurrence of the inventor before his application for a patent, or that by some well-defined action he offered the public the free use of it. Allowing others to use the invention as an express favour or on royalty for a period of less than two years immediately prior to the application for the patent, is not an abandonment to the public. But the tacit or open concurrence in independent parties using, working, or selling the invention in the United States prior to the application, is an abandonment to the public.

The description of a part of an invention in a patent specification without claiming it, but claiming other parts, and allowing the public free use of the unclaimed part for years, does not amount to an abandonment of the unclaimed part to the public; but on the contrary, by surrendering the patent and applying for a re-issue, the inventor can claim his neglected part and stop all further infringements.

DESIGNS.

Patents are also granted for new designs or patterns of manufactured articles. These do not require a model,

if the drawings and specification fully describe them. They are granted for three and a half, seven, or fourteen years, at the option of the applicant, the price of course varying. Except in these respects, the same rules apply to patents of design as of invention. These patents of design are liable to considerable abuse, as it frequently happens that a manufacturer having failed to obtain a patent of invention, owing to want of novelty, secures a patent of design, and marks the articles "Patented Feb. 24, 1878," or whatever the date may be, thus giving the public to believe that the article itself is patented, whereas it may be that an ornamental design forming part of the machine is the sole portion really protected.

As in the "United Kingdom," so in the United States, a word of caution will be useful as regards unscrupulous or dishonest patent agents. The commissioner, with the consent of the secretary of the interior, can, on the grounds of gross misconduct, refuse to recognise any person as a patent agent, either generally or in any particular case, but this action only weeds out the utterly flagrant cases, and there are black sheep in the profession in the United States as in England.

In his report in 1869, the commissioner of patents writes:—"Honest and skilful patent agents, with a "thorough knowledge of the practice of the office and "of patent law, and who are able and willing to advise "their clients as to the exact value of the patents which "they can obtain for them, may be of much service to "inventors. There are many such; but those who care "for nothing but to give them something to call a patent, "that they may secure their own fee, have in too many "instances proved a curse. Between such men and the "office the strife is constant. This tendency is aggra-"vated by those who solicit patents on *contingent fees*, "and who, without special training or qualifications, "adopt this business as an incident to a claim agency.

"Such men are often more desirous of obtaining a patent "of any kind and by any means than they are of ob- "taining one which shall be of any value to their "clients."

There are about twenty-one thousand applicants for United States patents yearly, of which about 15,000 are granted, upwards of 250,000 having been issued altogether, and of this enormous number eighty-one per cent. are still in force. Copies of specifications can be had at low rates, as in the English patent office; usual charge by patent agents, 4s ($1). The cost of an original patent when unopposed, exclusive of model, but including all other agency and government fees for residents in America $65 to $100, for non-residents $100 to $120 (£20 to £24).

Re-issues from $60 to $80 (£12 to £16).

Caveats fees for residents or citizens only, $25 £5).

Simple assignments, $2½ to $5 (10s. to £1).

Patents for designs, 3½ years, $40 to $65 (£8 to £11).
7 years, $45 to $70 (£9 to £14).
14 years, $60 to $85 (£12 to £17).

URUGUAY.

(Population, 440,000.)

This country is in pretty much the same condition as Paraguay as regards patent laws.

VENEZUELA.

There is a very good patent law, but poor unstable government to make it of value. Very few patents are taken out, and then chiefly by residents. Cost about £35.

VICTORIA.

(Population 850,000.)

Duration of patents fourteen years, limited by expiration of prior foreign patent of shortest term. Provisional protection for six months, on deposit of complete specification, which specification may be afterwards amended. Patents granted only to the actual inventor or his representative. The invention must not have been previously worked or published in the colony. There is an official examination. Notice to proceed having been given, and duly advertised by the applicant or his agent, and the official examination being undergone, the law officer can issue his warrant for letters patent, subject to such restrictions and conditions as he may deem fit. These formalities must all be accomplished within the six months of provisional protection. At the end of three years there is a tax of £15 ($75,) and at the end of the seventh one of £20 ($100). Patents can be renewed before the expiration of the fourteen years, for another term of fourteen years, or less, at the option of the Governor in Council. Assignments and licenees must be duly registered at the patent office. Disclaimers can be filed as in England (see page 17), and confirmations (see page 15), instead of being as in the mother country practically unavailable from the difficulty and expense of appealing to the judicial committee of the Privy Council, are in Victoria practical, and very satisfactory modes of getting over some slight flaw in the deeds. A special commission sits on petitions for confirmation and prolongations; all interested parties are advertised to appear before it, and if the Commissioner decide that it is advantageous to grant the confirmation, it is granted in such manner as not to injure legitimate existing interests opposing. The law as relates to infringements, and almost all

other matters, is the same as that of Great Britain, from which it is in great part copied. The number of patents granted yearly is at present about one hundred, but it is very rapidly increasing. Cost of patent, £80 ($150).

WESTERN AUSTRALIA.

(Population, 30,000.)

The owner of an English patent can get letters of registration extending its action to Western Australia for £45, but an invention not patented elsewhere costs to protect it in the colony £70. It need hardly be said that very few patents of either kind are taken out.

WEST INDIES.

Cuba and Porto Rico (population, 2,000,000) come under the Spanish patent law.

Hispaniola, divided into the two republics of Hayti (population, 800,000) and St. Domingo (population, 175,000), has no patent law, but special privileges can sometimes be obtained from the two legislatures at moderate rates.

Jamaica (population, 560,000), the Windward Islands (population, 285,000), the Leeward Islands (population, 120,000), Trinidad (population, 110,000), British Honduras (population, 26,000), the Bahamas (population, 40,000), and Bermudas (population, 16,000), each require a separate patent, averaging in cost from £12 to £25.

CONCLUDING HINTS FOR INVENTORS.

Patents for improvements on small objects in common use, or in the manufacture thereof, are usually much more profitable than those for steam-engines, blast furnaces, ships, or other large and costly structures. Bessimer, who made more than a million sterling out of his steel-making patents, is a comparatively rare exception to this rule. In an official report of a Chief Examiner of the United States Patent Office appears the following:—"A patent, if it is worth anything, "when properly managed is worth, and can easily be "sold for, from ten to fifty thousand dollars. These "remarks only apply to patents of minor or ordinary "value. They do not include such as the telegraph, "the planing machine, and the rubber patents, which "are worth millions each. A few cases of the first "kind will better illustrate my meaning.

"A man obtained a patent for a slight improvement "in straw cutters, took a model of his invention through "the Western States, and, after a tour of eight months, "returned with forty thousand dollars (£8,000) in "cash, or its equivalent.

"Another inventor obtained extension of a patent "for a machine to thrash and clean grain, and sold it "in about fifteen months for sixty thousand dollars "(£12,000). A third obtained a patent for printers' "ink, and refused fifty thousand dollars, and finally "sold it for about sixty thousand dollars.

"These are ordinary cases of minor inventions, in-"volving no very considerable inventive powers, and "of which hundreds go out of the patent office every "year. Experience shows that the most profitable "patents are those which contain very little invention, "and are, to a superficial observer, of little value."

Another species of patent almost always highly pro-

fitable is that of small improvements on existing processes in the arts. Almost all the principal manufacturing firms that have risen and become eminent during the last fifty years, date their prosperity from some occasion, when, making an improvement upon the then existing methods of manufacture (frequently only in some insignificant detail), they obtained for a time almost a monopoly of the trade. Thus a firm in Birmingham are believed to have made nearly a million sterling out of their patent for making screws, pointed so that they may enter the wood more easily.

A firm of London chandlers took out a patent for making the lower ends of candles taper instead of parallel, so as to more easily fit the sockets, and to this small improvement, "which any fool might have invented, *but did not*," a large part of their present enormous business is owing.

The patent for making umbrellas out of alpaca instead of gingham realized a princely fortune for its inventor, while the simple patented idea of heating the blast in iron smelting has certainly increased the wealth of this country by hundreds of millions.

In most cases where men have risen to eminence through inventions, they did not stop at a single patent, but kept on improving, and *buying also the improvements of their workpeople and others*. Howe, the inventor of the sewing-machine, was an exception. He made a princely fortune out of that one invention, and left improvements on it to others. One firm among his licensees, Wheeler and Wilson, by taking out fresh patents, and working them, are said to have made more than $1,000,000 (£200,000) a year nett profits, during the continuance of Howe's patent, after paying the latter his magnificent royalties.

HOW TO SELL A PATENT.

Brokers of stocks and shares, houses and lands, cotton, sugar, &c., abound, yet there is hardly a single firm in the world professing to be Brokers of Patents.* The inventor who has not sufficient leisure or capital to work his own invention has therefore usually to do his patent brokering himself. How should he go about it?

1st.—Go to the greatest centre of the particular industry where that business is carried on with which the invention is most nearly connected. 2nd.—If the invention be for a small object, get some specimens made and finished in the most pleasing style. 3rd.—Issue a neatly *printed* prospectus. Many inventors start on their travels with a coarse broken down model, showing defects rather than virtues, or a dirty ill-got-up drawing, whose very appearance is enough to set the capitalist at first sight against it. Whereas a pretty working model, showing the actual performance, and a nicely printed explanation, are prepossessing, and tend to carry conviction with them. 4th.—If, as is usually the wisest plan, the inventor wishes to still retain an interest in, and assist in introducing his invention, a limited company, with the patentee as managing director, is frequently his best resource. It is far easier to sell a thousand shares in a patent at £10 each, than the whole for £10,000. The main business is to get a few good names as directors, and the rest is easy.

PATENT AGENTS.

And now (if the author, who is a member of the profession, may be allowed to discuss the subject) a few words with regard to patent agents.

* W. P. Thompson and Co. have Agencies in America and on the Continent of Europe for selling Patents, and can generally introduce owners of good inventions to gentlemen who will undertake the sale in England.

People are usually very particular what lawyer or doctor they employ, yet go to the first patent agent that comes handy, thinking, as has been said before, "a patent is a patent," and whoever can get one cheapest is the best man. This has been the cause of three-fourths of all the misery and disappointment to which inventors have been so notoriously subject. The mere routine of obtaining a patent is easily acquired, but the legal and technical knowledge, the experience and analytical power necessary to draw up a specification in the best form, is only acquired by minds eminently qualified for the profession, after years of constant practice.

It is for this reason that many solicitors of high standing refuse to draw up patent specifications, but refer their clients to regular patent agents for the purpose.

Of these latter there are a fair number, not merely in London, but in several of the larger cities and towns, that, by their talents and character, would confer honor on any profession. Unfortunately, however, as it is very easy to acquire the mere routine of patent agency, there are always men professing to be patent agents who are quite unfit for the position. Among these may specially be mentioned certain individuals and "companies" in London, Manchester, Paris, and in other continental cities who, ignorant alike of patent law and technology, and unable to obtain a connection by legitimate means, send circulars to everyone obtaining provisional protection through other agents, offering to complete the patents at very low rates, often barely exceeding the government stamp duties. Instances are continually reported where these men have not merely caused the loss of valuable rights through ignorance or neglect, but have actually accepted the fees and done nothing, trusting to the inventor being too ignorant, too poor, too cautious, or too busy, to prosecute "*a man of*

straw." As the patent depends chiefly for its validity upon the skill of the agent drawing it up, the inventor will recognise the desirability of employing the services only of well-known experienced and responsible men.

There are fraudulent *patents*, too, as well as patent agents — patents of a plausible character, in which, however, even their projectors had never the smallest faith, taken out for the sole purpose of swindling the public into buying them. These may generally be known by the extravagant manner in which they are lauded and advertised when suddenly sprung upon the public. Nothing is easier than to get glowing testimonials for the most worthless invention, and capitalists before investing in any patent would do well to refer to a responsible patent agent, to discover by an examination and search whether it be really valid. Hardly one-fifth of the patents taken out under any circumstances are sound at law; and many even of these have nothing like their *apparent* value from being hedged round by others with conflicting claims.

Yet, almost smothered under this enormous load of useless or nearly worthless patents, there are great numbers continually brought out by poor and obscure men, any of which, taken up by a capitalist on the very liberal terms usually offered, would, properly worked, form a very handsome addition to even a princely income. It is well worth the consideration of those who are continually investing in foreign loans, mines, railways, &c., whether it would not pay them vastly better to take some poor but clever inventor by the hand, and, while thus encouraging trades and manufactures at home, employ their capital where it is constantly under their immediate inspection and control. Whether for safe and good paying investments, or for really brilliant speculations, there is probably no field left the capitalist to be at all compared in richness with that of carrying out patented inventions.

APPENDIX.

JUNE, 1883.

SINCE this edition was printed, a Government Patent Bill has, as usual, been brought before the British Parliament. It is, however, very doubtful whether it will be passed. The Brazillian Government have passed their new Patent Law. The following should therefore be substituted for the article on Brazil.

BRAZIL.

(Population, 10,200,000.)

Any new industrial product, or new process, or new application of old process for obtaining an industrial product or result, or improvement on an existing patented invention, can be patented.

By *new* is meant unpublished in any country, and not in commercial use before application for a patent.

Patents of Invention are granted for fifteen years.

Patents for improvements on existing patents are granted to expire with existing patent.

The government can at any time purchase the patent at a valuation.

An invention patented abroad can be protected in Brazil by the inventor within seven months of date of original foreign patent, notwithstanding any publication during the interim between the date of the foreign patent and date of patent in Brazil; and such patent takes priority over an application by another inventor for the same invention during said interim, but expires with the original foreign patent.

Provisional protection is granted, if desired, before patenting, but this is of little or no value except to residents.

Two or more inventions cannot be protected under one patent.

There is an examination before grant, stricter in the case of Chemical, Alimentary, or Pharmaceutical Patents than with others, but only with a view of ascertaining if the documents are in order, whether they are dangerous to public health, security, law, or morality, and whether they are for patentable inventions.

The invention must be worked in a *bonâ fide* manner in the empire within three years of the date of the patent, and to such an extent as to supply the wants of the country at reasonable rates, and such working must not be suspended except by cause of *force majeur* (a state of siege, for instance, preventing the working), on pain of forfeiture of the patent rights over that portion of the territory that, in the opinion of the authorities, was not properly supplied.

It is an infringement of the patent to make, sell, conceal, receive for the purposes of sale, or import the patented article, or use the patented process, and the penalty for such infringement is a fine of from $500 to $5,000 and 10 to 50 per cent. of the real and constructive damages (and the forfeiture to the patentee, in aggravated cases, of the counterfeit articles and plant for their manufacture).

Co-patentees have equal and independent rights to use the invention.

There is a fine of from $100 to $500 for the use of the word "Patent," or its equivalent, for any unpatented article, or article for which the patent has expired.

All Patents of Invention become void unless the annual tax be paid fully. This, with agency charges, comes to £4 ($20) at end of first year; £5 ($25) at end of second year, and so on increasing £1 ($5) each year.

Average cost of patent of invention £45.

Average cost of patent of addition £40.

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PATENTS secured on the most moderate terms compatible with thorough painstaking execution. Chemical Patents a speciality at the Liverpool Office.

The inventor's attendance in Liverpool or London is unnecessary, as the business can generally be done by correspondence. W. P. T. & Co. are, however, always glad to have personal interviews with their clients.

Inventors wishing to patent an idea, should send us an accurate description of it, stating whether they have made a search themselves, or whether they require it made for them. They will receive an answer by return of post as to whether it be a patentable idea, and if so, what will be the exact cost of completely protecting it (including search, drawings, &c.) No charge made for such report; and all communications kept inviolably secret. Carriage of Models, &c., must, however, be prepaid, or they will be returned unopened.

Abridgments of all English Patent Specifications, and of all existing American ones, with plates, are kept on file at 6, Lord Street, Liverpool. (The only Office it is believed in England, except the Commissioners of Patents Library, where these latter can be seen.)

An exact copy of all Trade-marks registered in Great Britain, under the new law, is also kept on file at the above office.

NOTE.—WM. P. THOMPSON & Co. have, they believe, at the present time, altogether the largest provincial Patent and Trade-marks practice in England.